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ACTAE regional project

Accompanying the Agro-ecological Transition in Southeast Asia

2015 - 2019

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Résumé

Introduction

L'agro-écologie répond à de nombreuses définitions relevant à la fois de dimensions scientifiques, environnementales et sociétales. Selon la littérature, les techniques qui lui sont attribuées concernent l'agriculture de conservation, l'agroforesterie, la permaculture, l'agriculture biologique auxquelles s'ajoutent d'autres pratiques comme la culture intercalaire, l'intégration de l'élevage ou la protection intégrée contre les ravageurs et les maladies.

Les pratiques agro-écologiques sont connues pour leurs effets bénéfiques sur l'environnement, la biodiversité, la qualité des sols, le développement social et économique, la préservation de l'héritage culturel et le bien-être des producteurs et consommateurs. Elles sont notamment préconisées par plusieurs grandes initiatives européennes et/ou mondiales pour réduire les impacts du changement climatique grâce à leurs aptitudes à induire le stockage du carbone dans les sols et la biomasse.

Cependant, elles sont encore peu développées en Asie du Sud Est. Les raisons principales sont : un manque de connaissances et de savoir-faire, l'absence de marché de semences, le faible niveau de mécanisation, le manque d'attractivité des marchés pour les produits issus de ces pratiques et l'insuffisant appui du secteur politique.

Après les guerres qui ont sévi dans la région du Mékong, l'agriculture intensive s'est développée de plus en plus, au détriment de la biodiversité, de la qualité des sols, de la forêt, et de la durabilité des systèmes fermiers. Elle remplace une agriculture de subsistance basée sur des savoirs traditionnels très riches qui se perdent peu à peu.

L'agro-écologie est basée sur un dialogue multiculturel entre scientifiques, producteurs et consommateurs. C'est pourquoi la FAO et l'AFD recommandent la création de plateformes de réseautage collaborant avec toutes les parties prenantes pour recueillir et échanger des expériences et les innovations agro-écologiques.

Pour stimuler la transition agro-écologique, il est donc nécessaire, non seulement, de surmonter les obstacles socio-technico-économiques mais aussi, en même temps, d'impliquer tous les acteurs de la chaine de valeur.

C'est dans ce contexte que le projet ACTAE "Accompanying the Agro-ecological Transition in South East Asia" a été conçu et réalisé.

La gestion du projet par le CIRAD et le GRET sous couvert du DALaM

Le projet ACTAE a démarré en 2015 avec un financement de l'AFD de 2,5 M€ et du CIRAD de 0,2 M€. Il est coordonné par le CIRAD en partenariat avec le GRET sous l'égide du DALaM (Department of Agricultural Land Management). Ses activités se sont déroulées au Laos, pays auquel le projet est rattaché, au Vietnam, au Cambodge, au Myanmar et en Thaïlande. Il se terminera le 31 décembre 2019.

L'objectif d'ACTAE est de mettre en place des mécanismes efficaces et durables pour faciliter les synergies entre des initiatives existantes ou nouvelles contribuant à la transition agro-écologique.

Le projet est structuré en deux composantes :

1. CANSEA « Conservation Agriculture Network in South East Asia » coordonnée par le CIRAD. Son objectif est de produire et de promouvoir des connaissances techniques et organisationnelles sur l'agro-écologie.
2. ALiSEA « Agroecology Learning Alliance in Southeast Asia » coordonnée par le GRET. Son objectif est de faciliter le partage des connaissances et des expériences entre les acteurs et d'accroître ainsi la visibilité de l'agro-écologie dans la région du Sud Est asiatique.

Le projet est doté de trois structures de gouvernances : le comité de pilotage, l'unité de gestion du SMoU entre le DALaM et le CIRAD et l'unité exécutive composée du coordinateur principal et des coordinateurs des deux composantes.

La mise en œuvre du projet a rencontré plusieurs évolutions dans la composition de l'unité exécutive et un démarrage décalé dans le temps du travail réalisé par les deux composantes. Cela a conduit l'AFD à réallouer une part du budget du CIRAD vers le GRET.

Les synergies entre les deux composantes, avec la mise en œuvre d'actions communes, ont progressé tout au long du projet pour aboutir notamment à l'organisation et à l'élaboration conjointes de documents, d'évènements et du futur projet ASSET « Agroecology and Safe food System Transitions ».

ACTAE a contribué à la préparation du projet ASSET en organisant plusieurs rencontres avec les partenaires en lien avec l'étude de faisabilité d'une seconde phase d'ACTAE conduite par l'IRAM, à la demande de l'AFD.

ASSET est en cours de finalisation avec l'assurance de pouvoir bénéficier d'un budget de 12 M€ octroyé en partie par l'AFD (5 M€) et l'Union Européenne (7M€).

Dans l'attente de son démarrage et pour ne pas stopper les dynamiques en place, la durée d'exécution d'ACTAE a été prolongée au 31 décembre 2019 et la répartition du budget entre CIRAD et GRET a encore été modifiée.

Le projet a été audité à deux reprises par la Société APAS « Asia Pacific Accounting and Audit Services Sole Co, Ltd ». Il a également fait l'objet d'une évaluation à mi-parcours par l'IRAM en avril 2018.

La conférence finale du projet « Agroecology Futures Regional Forum » a été organisée à Siem Reap (Cambodge) en novembre 2018. Elle a recueilli un vif succès auprès d'un panel très diversifié de 260 participants. Les présentations et les discussions durant le Forum complètent les réflexions conduites dans un atelier organisé à Battambang en avril 2018 sur les actions à mettre en place pour accentuer la transition agro-écologique dans la région.

Les résultats de la composante CANSEA

Le réseau CANSEA/ASEA a un partenariat élargi et diversifié ainsi qu'une gouvernance en cours de consolidation.

Les actions conduites ont contribué au renforcement et à l'évolution du réseau CANSEA crée en 2009. En partant d'un partenariat initial de 8 membres, le réseau a mobilisé plus de 50 institutions localisées dans 9 pays (Australie, Cambodge, France, Belgique, Laos, Myanmar, Thaïlande, Etats Unis d'Amérique, Vietnam) et travaillant dans les secteurs de la recherche, du développement, de la politique, de l'éducation et du secteur privé.

L'institutionnalisation du réseau CANSEA/ASEA n'est pas possible mais des cofinancements venant d'autres projets et d'autres partenaires ont pu être mobilisés pour compléter le budget d'ACTAE sur certaines actions.

La gouvernance du réseau CANSEA/ASEA évolue pour prendre en compte un élargissement de ses thèmes de recherche et la diversité de ses partenaires.

Bien que majoritairement portées sur l'agriculture de conservation, les actions ont traité d'agroforesterie, d'agriculture biologique, d'intégration d'élevage, de gestion intégrée des maladies et de ravageurs, de culture intercalaire et d'usage de microorganismes. Elles ont conduit à l'acquisition et la diffusion de nouvelles connaissances et d'outils pédagogiques sur l'évaluation et la conception des agrosystèmes, la formation et le conseil au niveau de la sphère politique.

Le réseau CANSEA a changé de nom en 2019 pour devenir ASEA « Research for Development Platform on Agroecology in South East Asia ». La nouvelle feuille de route d'ASEA et l'évolution de son partenariat seront discutées fin novembre 2019 à Hanoï dans le cadre de la réunion de lancement de la plateforme.

Le Réseau CANSEA/ASEA a apporté une synergie aux projets nationaux et régionaux qui mettent en œuvre des actions de R&D sur l'agro-écologie.

La composante CANSEA a mis en place et géré le financement, de gré à gré ou en réponse à deux appels d'offres compétitifs, de 19 actions de R&D et d'une action de formation au montage de projets.

Les résultats générés par ces actions ont été largement communiqués aux parties prenantes soit directement, soit dans le cadre de formations, communications dans des conférences, d'écoles, de vidéos, d'articles scientifiques et de vulgarisation. Ils sont disponibles, pour la plupart, sur le site web d'ALiSEA et ont été présentés à la conférence finale « Agroecology Futures Regional Forum ».

Au total les actions de R&D ont contribué à 44 communications dans des conférences, 31 rapports d'activité, 31 brochures et articles de vulgarisation, 16 vidéos, 15 outils pédagogiques, 14 formations, 10 rapports d'études diplômantes, 8 ateliers, 7 articles publiés dans des revues scientifiques, 4 outils ou études d'évaluation, 3 documents de

positionnement, le renforcement de 2 banques de ressources génétiques, la construction d'infrastructures, 1 chapitre d'ouvrage et 1 base de données.

Le réseau CANSEA/ASEA a contribué au renforcement de 3 plateformes de R&D sur l'agriculture de conservation.

- La station de Bos Khnor gérée par le CASC (Conservation Agriculture Service Center), qui est une entité semi-autonome créée au sein du DALRM (departement of Agricultural Land Management Ressource) du GDA (General Directorate of Agriculture) au Cambodge. L'action a contribué au renforcement de la station expérimentale de Bos Khnor et à son accompagnement vers la création d'un centre régional de formation et de ressources en agro-écologie. Elle a permis notamment de cofinancer le maintien d'une banque de ressources génétiques, des expérimentations et des démonstrations, l'appui et la formation des producteurs sur la production de semences, la conception et l'évaluation d'agrosystèmes, l'usage d'une mécanisation adaptée ainsi que des formations académiques.

  L'action a contribué directement à la formation technique d'environ 450 personnes (producteurs, partenaires du développement, de recherche et d'éducation), l'adhésion du CASC à la JEAI (Jeune Equipe Associée à l'IRD) travaillant sur l'agro-écologie des systèmes à base de riz et à l'évolution du Centre de formation de Bos Khnor vers un statut régional.

- Le NOMAFSI (Northern Mountainous Agriculture and Forestry Science Institute) au Vietnam pour poursuivre les actions commencées par le projet ADAM sur la lutte contre l'érosion des zones montagneuses du nord du pays. L'action a financé des expérimentations et des formations sur des sites pilotes en impliquant un réseau de producteurs.
  A la fin de l'action, le réseau de producteurs comptait 79 fermiers de plus soit 144 personnes et 217 fermiers ont pu bénéficier de formations sur l'agriculture de conservation, la protection des plantations et l'usage d'herbicides adaptés aux pratiques agro-écologiques.

- Le Centre technique BAN POA au Laos pour promouvoir l'agriculture de conservation et au-delà l'agro-écologie dans la plaine des Jarres. L'action a cofinancé la construction d'un bâtiment dédié à la formation des producteurs et l'achat d'une infrastructure de stockage de matériel biologique. Des activités visant à réduire l'usage des pesticides ont démarré. Un soutien technique a été donné à 78 fermiers (65 ha) pour l'établissement et la gestion de systèmes à base de maïs. Le Centre entretien également une banque de ressources génétiques en partenariat avec le CASC.

Le réseau CANSEA/ASEA a apporté un appui à la recherche pour le développement en agro-écologie sur 9 sujets.

1. ***La compréhension et la promotion de changements techniques et organisationnels*** en développant et en utilisant notamment des jeux de simulation participatifs pour la formation, l'animation et l'aide à la prise de décision et en promulguant des conseils et des formations aux producteurs et techniciens.

2. ***La compréhension des chaines de valeurs*** avec une analyse de cas sur le haricot Mungo, une espèce négligée et sous-utilisée au Laos.

3. ***L'hybridation des savoirs locaux et académiques dans le domaine de l'agroforesterie au Laos et au Vietnam***. Les connaissances produites ont permis d'élaborer un outil d'aide à la décision en ligne (shadetreeadvice.org) pour aider les producteurs et les services d'appui à sélectionner et utiliser les espèces d'arbres bénéfiques selon les conditions locales.

4. ***La diminution de l'usage d'intrants chimiques***.
   - Des méthodes de compostage pour l'agriculture biologique ont été développées et promues auprès d'agriculteurs laotiens ainsi que l'analyse des raisons pouvant conduire à l'adoption de nouvelles pratiques.
   - Des méthodes de lutte contre les mauvaises herbes, au moyen de plantes légumineuses de couverture ou de l'utilisation de microorganismes ont été mises au point sur la station de Bos Khnor au Cambodge.
   - La Protection Agro-écologique des Plantes (ACP) a été promue par plusieurs formations dans la sous-région, l'organisation d'une école scientifique internationale au Vietnam en mars 2018 et la prise en charge d'une étudiante vietnamienne à l'Ecole Scientifique Internationale organisée à Voltera (Italie) en février 2018.

5. ***L'amélioration et l'évaluation de la santé des sols***.
   - Des recherches ont été conduites sur le semi sur couvert végétal et l'usage d'une combinaison de plantes de couverture contribuant à une meilleure efficience de l'eau et des nutriments. La technologie du « green sowing » développée sur la station de Bos Khnor est très avantageuse.
   - Les impacts de diverses plantes et pratiques agro-écologiques (culture intercalaire, agriculture de conservation, association de légumineuses) comparées à des pratiques conventionnelles sur les communautés fongiques, bactériales et de nématodes des sols ont été mesurés. Cela permet de définir des marqueurs des conditions environnementales et de la fonction écosystémique des sols à prendre en compte pour améliorer les systèmes agronomiques.
   - Un ensemble d'indicateurs rassemblés dans l'outil Biofunctool a été utilisé pour évaluer la qualité des sols (transformation du carbone, recyclage des nutriments et maintenance de la structure) au Cambodge. Cet outil très pédagogique peut

être utilisé pour la formation et l'aide à la prise de décision en montrant l'impact des pratiques culturales sur la santé des sols.
- Des recherches ont également été conduites sur les microorganismes Rhizobia et Arbuscalar Mycorrhizal Fungi jouant un rôle dans l'amélioration des conditions de croissance des plantes. Elles ont permis notamment d'isoler des souches natives pouvant servir à la fabrication d'inocula de Rhizobia plus performants que les produits commerciaux en Asie du Sud-est. Elles ont aussi démontré que le niébé, utilisé en culture intercalaire avec le manioc, possède une bonne capacité pour que les racines entrent en symbiose avec Arbuscalar Mycorrhizal Fungi natif (AMF).

6. ***L'augmentation de la biodiversité***.
   - Des producteurs cambodgiens et laotiens ont été formés pour produire eux même des semences de plantes de couverture. L'usage de plantes sous-utilisées a été encouragé.
   - Environ 40 espèces d'arbre au nord Vietnam et 150 espèces d'arbres au Sud Laos dans les systèmes caféiers ont été documentées. Les services écosystémiques rendus par ces espèces ont été discutés, comparés et classés par ordre d'importance par les communautés locales.

7. ***La formation académique des jeunes sur l'agroécologie***.
   - Le Centre de formation de Bos Khnor offre une vitrine sur les pratiques agro-écologiques. Il est engagé avec des universités et l'ITC (Institute of Technology of Cambodia) pour la production de curricula sur l'agro-écologie.
   - Une action de e-learning a contribué à l'émergence du National Learning Management System (LMS) au Cambodge qui met à disposition des étudiants et des professeurs des supports de cours sur l'agro-écologie en accès libre.

8. ***L'amélioration des méthodes de mécanisation***. Le projet a contribué à l'introduction et à l'étude de 3 machines spécifiques pour l'agriculture de conservation au Cambodge.

9. ***L'appui au dialogue politique pour promouvoir l'agro-écologie***. ACTAE a appuyé le MAF (Ministry of Agriculture), au Laos, pour mettre en place l'Initiative Laotienne sur l'Agriculture de Conservation (LICA) au sein du dialogue politique avec l'ASEAN.

Le réseau CANSEA/ASEA a contribué à la construction d'un partenariat de long terme au niveau de l'ASEAN, procurant un appui politique et financier au réseau et à ses membres.

ACTAE a apporté des compétences et un support financier au MAF pour faciliter la mise en œuvre de LICA. Cette initiative a pour objectifs de partager, autour d'une vision commune, de comparer et d'homogénéiser autant que possible les régulations nationales et les aides octroyées à l'agro-écologie au niveau de l'ASEAN. Le processus qui a démarré en 2012 est long et progressif. Une note conceptuelle LICA est maintenant endossée au niveau politique

de l'ASEAN. L'élaboration d'une feuille de route sera la prochaine étape pour faire entrer l'initiative dans sa phase opérationnelle.

Le réseau CANSEA/ASEA est un membre actif de la nouvelle alliance ALiSEA

La participation du réseau CANSEA/ASEA à ALiSEA se traduit par l'organisation d'évènements conjoints, la production de rapports et de documents et la communication des résultats de la composante CANSEA sur le site web d'ALiSEA. Elle s'est matérialisée en fin de projet avec la conception du futur projet ASSET dans lequel les deux réseaux sont fortement impliqués.

Les résultats de la composante ALiSEA

L'émergence de réseau ALISEA

ACTAE a permis de lancer une réelle dynamique régionale et d'établir les conditions favorables pour l'émergence d'une alliance multi-acteurs de partage d'expériences et de connaissances dans quatre pays de la région Mékong : Cambodge, Laos, Myanmar et Vietnam.

Le réseau ALiSEA a réussi à rassembler une diversité d'acteurs autour d'une vision ouverte de l'agro-écologie avec une participation significative. Au bout de quatre ans, 160 organisations sont devenues membres du réseau et visibles sur le site internet (http://ali-sea.org/) : 86 ONGs internationales et nationales, 19 organisations paysannes, 5 réseaux, 30 centres de recherches et universités, 3 agences du gouvernement et 18 entreprises privées.

Le réseau ALiSEA a développé des activités de partage des expériences et informations (ateliers, visites de terrain), de mise en relation des acteurs et de renforcement des capacités des organisations (formation, accès à la documentation technique, gamme d'outils de communication).

De nombreux outils multimédia ont été développés permettant une large diffusion d'informations en lien avec l'agro-écologie avec notamment la création d'un site internet qui inclut une bibliothèque en ligne regroupant plus de 900 documents, 5 pages Facebook en anglais et dans différentes langues nationales, une newsletter, des vidéos, une chaîne YouTube avec 112 vidéos, un film d'animation sur ALiSEA traduit en 6 langues.

ALiSEA a directement facilité la mise en réseau et le partage de connaissances au sujet de l'agro-écologie à travers l'organisation de 22 ateliers nationaux et régionaux multi-acteurs impliquant un peu plus de 1200 représentants d'environ 150 organisations, agences et projets de la région Mékong.

ALiSEA a soutenu des initiatives innovantes par l'attribution de 26 petites subventions (au travers de 2 appels à projets compétitifs ayant reçu un total de 120 propositions) : 6 au Cambodge, 5 au Laos, 6 au Myanmar, 7 au Vietnam et 2 régionales.

La publication de l'ouvrage « *Agroecology Futures : Inspiring and innovating stories from ALiSEA* » recueille les résultats de plus de 20 études de cas et d'actions collectives issues de ce mécanisme de petites subventions. Ce livre de capitalisation a été présenté et largement diffusé lors de l'atelier « Agroecology Futures Regional Forum » au Cambodge.

Le réseau ALiSEA a développé plusieurs types de services dont l'organisation d'ateliers thématiques comme processus d'apprentissage, la mise en relation des gens et d'organisations, la valorisation et diffusion des documents et informations des membres, l'appui à l'organisation d'événements, la recherche de documents techniques, des formateurs, et la publication d'offres d'emploi. Ce travail doit se poursuivre afin de mieux répondre aux attentes des membres et définir les services rendus spécifiquement aux membres du réseau.

Des modalités de gouvernance et d'institutionnalisation d'ALiSEA sont en cours d'évolution.
De 2017 à 2019, quatre organisations membres, dont trois ONGs nationale, internationale et un institut de recherche, ont hébergé le secrétariat national du réseau. Les secrétariats ont largement contribué à la promotion et l'extension du réseau. Ils ont joué un rôle majeur dans l'organisation et l'animation des activités du réseau (ateliers, études de cas, visites etc.). Ils ont contribué au processus d'attribution et au suivi des petites subventions. Ils ont également assuré une veille nationale sur les informations en lien avec l'agro-écologie afin d'alimenter le site internet et les réseaux sociaux.

L'organisation des quatre assemblées générales au niveau national constitue un élément fondateur dans l'émergence du réseau ALiSEA. Ces assemblées ont permis de renforcer l'appartenance à une alliance, d'échanger sur les visions et définitions de l'agro-écologie. Le réseau s'est également doté d'une charte validée par les membres dans chaque pays lors des assemblées générales.

Le réseau ALiSEA est une initiative récente. Cette première période de quatre ans est une phase d'émergence et de construction. **Un processus de réflexion sur la gouvernance a été initié avec un groupe de travail constitué dans chaque pays par une 15aine d'organisations membres et volontaires.** L'équipe du GRET a soutenu le processus de structuration du réseau ALiSEA selon une approche participative et souple afin de garantir un réseau enraciné localement.

Il apparait crucial de poursuivre la construction et la structuration selon une approche participative basée sur une dynamique et une appropriation nationale afin de parvenir à un réseau où les membres sont activement impliqués dans sa gestion. En revanche, il est apparu prématuré de discuter des modalités de financement et d'institutionnalisation du réseau.

Conclusion

Le projet ACTAE a produit un ensemble important de résultats à la fois sur le plan technique, pour promouvoir, transmettre et évaluer de nouveaux systèmes agronomiques, et sur les

plans sociétaux et politiques, pour comprendre les mécanismes historiques et socioéconomiques qui permettent le changement de pratiques.

Avec l'émergence d'ALiSEA regroupant plus de 160 membres et l'élargissement du partenariat du réseau CANSEA/ASEA, le projet ACTAE a permis de rassembler une importante communauté d'acteurs, venant de la recherche, du développement, de gouvernements, de la société civile, des organisations paysannes, des systèmes éducatifs et du secteur privé, autour de l'agro-écologie.

Il a aussi beaucoup œuvré pour le partage d'informations et la construction collective et participative de nouvelles connaissances en privilégiant des approches « botton-up » et en prenant en compte les contextes nationaux. Il a permis la création de plusieurs outils de communications très attractifs comme le site web ALiSEA et sa librairie ainsi que de nouveaux espaces de partage aux niveaux régional et nationaux et des méthodes innovantes pour produire et inspirer de nouvelles expériences.

Il a collecté une multitude de témoignages sur des histoires réussies basées sur l'adoption de nouvelles pratiques agro-écologiques.

Il a aidé le Laos à développer un leadership dans les réflexions sur l'agro-écologie au niveau de l'ASEAN. Le processus doit encore se poursuivre pour renforcer l'action politique dans le développement de l'agro-écologie.

Il a contribué à des structures de formation sur l'agro-écologie au Cambodge qui ont vocation à régionaliser leurs actions à courts termes.

Il a contribué à la formation d'étudiants universitaires et à la production de connaissances scientifiques.

De nombreuses activités de partage avec toutes les parties prenantes ont été organisées dans la sous-région. Elles ont grandement contribué à accroitre la visibilité et la compréhension de l'agro-écologie.

Le projet ACTAE a également établi des relations durables de travail et de confiance entre le CIRAD et le GRET et contribué à la préparation du futur projet ASSET (« Agroecology and Safe food System Transitions).

Toutes les connaissances et outils produits par le projet ACTAE, déjà largement partagés avec les parties prenantes, constituent le ferment du futur projet ASSET et d'autres initiatives qui contribueront à renforcer la transition agro-écologique.

Avec un budget conséquent octroyé par l'Union Européenne et l'AFD, le projet ASSET soutiendra des actions techniques, socio-économiques et politiques pour accroître la transition agro-écologique dans les pays de la région du Mékong. Il jouera un rôle essentiel dans la réalisation des avancées attendues pour accroître l'impact de l'Agro-écologie sur la sécurité alimentaire et le développement durable de la région, si durement affectée à la fois par les guerres passées et les aléas climatiques déjà bien ressentis.

Summary

Introduction

Agroecology responds to many definitions that are at once scientific, environmental and societal. According to the literature, the techniques attributed to it are in the fields of conservation agriculture, agroforestry, permaculture, organic farming, to which are added other practices such as intercropping, the integration of livestock farming or integrated protection against pests and diseases.

Agro-ecological practices are known for their positive effects on the environment, biodiversity, soil quality, social and economic development, preservation of cultural heritage and the well-being of producers and consumers. In particular, they are recommended by several European and / or global initiatives to reduce the effects of climate change through their ability to induce carbon storage in soils and biomass.

However, they are still underdeveloped in South East Asia. The main reasons are a lack of knowledge and know-how, the absence of a seed market, the low level of mechanization, the lack of attractiveness of markets for the products resulting from these practices and the insufficient support of the political sector.

After the wars in the Mekong region, intensive agriculture has grown more and more, to the detriment of biodiversity, soil quality, forest and sustainability of the agricultural systems. It replaces subsistence agriculture based on a very rich traditional knowledge that is gradually being lost.

Agroecology is based on a multicultural dialogue between scientists, producers and consumers. This is why FAO and AFD recommend the creation of networking platforms collaborating with all stakeholders to collect and exchange experiences and agro-ecological innovations.

To stimulate the agro-ecological transition, it is therefore necessary, not only to overcome the socio-techno-economic obstacles but also, at the same time, to involve all actors in the value chain.

It is under this context that the ACTAE project "Accompanying the Agro-ecological Transition in South East Asia" was conceived and realized.

Project management by CIRAD and GRET under cover of DALaM

The ACTAE project started in 2015 with AFD financing of € 2.5 million and CIRAD € 0.2 million. It is coordinated by CIRAD in partnership with GRET under the umbrella of DALaM (Department of Agricultural and Land Management). Its activities took place in Laos, to which

the project is attached, in Vietnam, Cambodia, Myanmar and in Thailand. It will end on December 31, 2019.

ACTAE's goal is to put in place effective and sustainable mechanisms to facilitate synergies between existing and new initiatives contributing to the agro-ecological transition.

The project is structured in two components:

1. **CANSEA "Conservation Agriculture Network in South East Asia"** coordinated by CIRAD. Its goal is to produce and promote technical and organizational knowledge on agroecology.

2. **ALiSEA "Agroecology Learning Alliance in Southeast Asia"** coordinated by GRET. Its goal is to facilitate the sharing of knowledge and experiences among stakeholders and thus increase the visibility of agroecology in the South East Asian region.

The project has three governance structures: the Steering Committee, the SMoU management unit between DALaM and CIRAD and the executive unit composed of the main coordinator and the coordinators of the two components.

The implementation of the project has encountered several changes in the composition of the executive unit and a delayed start in time of the work done by the two components. This led AFD to reallocate part of the CIRAD budget to GRET.

Synergies between the two components, with the implementation of joint actions, progressed throughout the project, leading to the joint organization and elaboration of documents, events and the future ASSET project "Agroecology and Safe food system transitions ".

ACTAE contributed to the preparation of the ASSET project by organizing several meetings with partners and in connection with the feasibility study of a second phase of ACTAE conducted by IRAM (Institut de Recherches et d'Applications des Méthodes de développement) , at the request of AFD.

ASSET is being finalized with the assurance of being able to benefit from a € 12 million budget granted in part by AFD (€ 5 million) and the European Union (€ 7 million).

Pending its start and to not stopping the dynamics in place, the duration of ACTAE was extended to 31 December 2019 and the distribution of the budget between CIRAD and GRET was further modified.

The project was audited twice by APAS Corporation "Asia Pacific Accounting & Audit Services Sole Co, Ltd". It was also the subject of a mid-term evaluation by IRAM in April 2018.

The final conference of ACTAE “Agroecology Futures Regional Forum” was held in Siem Reap, Cambodia in November 2018. It was a great success with a very diverse panel of 260 participants. The presentations and the discussions during the Forum complement the reflections conducted in a workshop held in Battambang in April 2018 on the actions to be put in place to accentuate the agro-ecological transition in the region.

The technical activities of ACTAE are deployed in 47 actions funded under Small Grant Facilities, the organization of multi stakeholders & thematic workshops, the implementation of studies & co-research processes and the development of knowledge management & communication.

The results of the CANSEA component

CANSEA/ASEA has a broad and diverse partnership and consolidated governance

The project contributed to the strengthening and evolution of the CANSEA network created in 2009. Starting from an initial partnership of 8 members, the network mobilized more than 50 institutions located in 9 countries (Australia, Cambodia, France, Belgium, Laos, Myanmar, Thailand, United States of America, and Vietnam) and working in the areas of research, development, politics, education and the private sector.

The institutionalization of the CANSEA / ASEA network is not possible but co-financing from other projects and other partners have been mobilized to complement the ACTAE budget.

The governance of the CANSEA/ASEA network evolves to take into account an expansion of its research themes and the diversification of partnership.

Although mainly focused on conservation agriculture, the actions dealt with agroforestry, organic farming, livestock integration, integrated disease and pest management, intercropping and the use of microorganisms. They led to the acquisition and dissemination of new knowledge and pedagogical tools on the evaluation and design of agro-systems, training and counselling in the political sphere.

The CANSEA network has changed its name, in 2019, to ASEA "Research for Development Platform on Agroecology in South East Asia". The new ASEA roadmap and the composition of its membership will be discussed at the end of November, 2019 during the inception ASEA meeting in Hanoi.

The CANSEA / ASEA Network contributed to synergize national and regional projects that implement R & D actions on agroecology.

The CANSEA component has supported 19 R & D actions and one project training course.

The results generated by these actions have been widely communicated to stakeholders either directly or as part of trainings, conference presentations, schools, videos, brochures

and articles. Most of them are available on the ALiSEA website and were presented at the final conference "Agroecology Futures Regional Forum".

In total, the research actions contributed to 44 papers in conferences, 31 activity reports, 31 brochures and popular articles, 16 videos, 15 teaching tools, 14 training courses, 10 diploma reports, 8 workshops, 7 articles published in scientific journals, 4 tools or evaluation studies, 3 positioning documents, the strengthening of 2 seed banks, construction of infrastructures, 1 book chapter and 1 database.

CANSEA/ASEA network contributed to the strengthening of 3 R & D platforms on conservation agriculture

- The Bos Khnor station managed by the CASC (Conservation Agriculture Service Center), which is a semi-autonomous entity created within the GDA DALRM (Department of Agricultural Land Management Resource) in Cambodia. The action contributed to the strengthening of the Bos Khnor Experimental Station. It has made it possible to co-finance the maintenance of a seed bank, experiments and demonstrations, the support and training of producers on seed production, the design and evaluation of agro-systems, the use of adapted mechanization as well as academic trainings.

  The action directly contributed to the technical training of about 450 people (producers, development, research and education partners), the CASC membership of the IRD JEAI working on the agro-ecological rice systems and the evolution of the Bos Khnor Training Center toward a regional Center.

- NOMAFSI (Northern Mountainous Agriculture and Forestry Science Institute) in Vietnam to continue the actions started by the ADAM project to fight against erosion of mountainous areas of the north of the country. The action financed experiments and training on pilot sites involving a network of producers.

  At the end of the action, the network of producers had 79 additional farmers among 144 people and 217 farmers were able to benefit from training on conservation agriculture, the protection of plantations and the use of herbicides adapted to agro-ecological practices.

- The BAN POA Technical Center in Laos to promote conservation agriculture and beyond agroecology in the plain of Jars. The action co-financed the construction of a building dedicated to the training of producers and the purchase of a biological material storage infrastructure. Activities to reduce the use of pesticides have started. Technical support was provided to 78 farmers (65 ha) for the establishment and management of maize-based systems. The Center also maintains a seed bank in partnership with the CASC.

***CANSEA/ASEA network provided support for agroecology research and development* on 9 topics:**

1. Understanding and promoting technical and organizational changes by developing and using participatory simulation games for training, facilitation and decision-making and by providing advice and training to producers and technicians.

2. Understanding value chains with a case analysis on Mung Bean, a neglected and underutilized species in Laos.

3. The hybridization of local and academic knowledges in the field of agroforestry in Laos and Vietnam. The knowledge produced led to the development of an online decision support tool (shadetreeadvice.org) to help producers and support services select and use beneficial tree species according to local conditions.

4. The decrease in the use of chemical inputs.
   - Composting methods for organic agriculture have been developed and promoted among Laotian farmers as well as the analysis of the reasons that may lead to the adoption of new practices.
   - Weed control methods, using leguminous cover crops or microorganisms, have been developed at the Bos Khnor station in Cambodia.
   - The Agro-ecological Protection of Plants (ACP) has been promoted by several trainings in the sub-region, the organization of an international scientific school in Vietnam in March 2018 and the care of a Vietnamese student at the International School of Science, organized at Voltera (Italy) in February 2018.

5. Improvement and evaluation of soil health.
   - Research has been carried out on direct seed planting and the use of a combination of cover crops to improve the efficiency of water and nutrients. The green sowing technology developed at the Bos Khnor station is very advantageous.
   - The impacts of various agro-ecological plants and practices (intercropping, conservation agriculture, legume association) compared to conventional practices on fungal, bacterial and soil nematode communities were measured. This helps to define markers of environmental conditions and soil ecosystem functions to be taken into account to improve agronomic systems.
   - A set of indicators collected in the Biofunctool tool was used to assess soil quality (carbon transformation, nutrient recycling and structure maintenance) in Cambodia. This tool can be used for training and decision support by showing the impact of cultural practices on soil health.
   - Research has also been carried out on Rhizobia and Arbuscalar Mycorrhizal Fungi microorganisms that play a role in improving plant growth conditions. In particular, they have been able to isolate native strains that can be used to produce Rhizobia inocula that perform better than commercial products in Southeast Asia. They also demonstrated that cowpea, used intercropped with

cassava, has a good ability for the roots to come into symbiosis with native Arbuscalar Mycorrhizal Fungi (AMF).

6. Increasing biodiversity.
   - Cambodian and Lao producers have been trained to produce plant seeds themselves. The use of underutilized plants has been encouraged.
   - About 40 tree species in northern Vietnam and 150 tree species in southern Laos in coffee systems have been documented. Ecosystem services provided by these species have been discussed, compared and ranked in order of importance by local communities.

7. The academic training of young people on agroecology.
   - The Bos Khnor Training Center provides a showcase of agroecological practices. It is engaged with universities and ITC (Institute of Technology of Cambodia) for the production of agroecology curricula.
   - An action on e-learning has contributed to the emergence of the National Learning Management System (LMS) in Cambodia, which provides students and professors with open access agroecology courses.

8. Improvement of mechanization methods. The project contributed to the introduction and study of 3 specific machines for conservation agriculture in Cambodia.

9. Support for political dialogue to promote agroecology. ACTAE supported MAF (Ministry of Agriculture), in Laos, to implement the Lao Conservation Agriculture Initiative (LICA) in the political dialogue with ASEAN.

The CANSEA/ASEA network contributed to build a long-term partnership at ASEAN level, providing political and financial support to the network and its members.

ACTAE provided expertise and financial support to MAF to facilitate the implementation of LICA. This initiative aims to share, around a common vision, to compare and homogenize as much as possible the national regulations and aid granted to agroecology at the ASEAN level. The process that started in 2012 is long and gradual. A concept note LICA is now endorsed at the political level of ASEAN. The development of a roadmap will be the next step in bringing the initiative into its operational phase.

The CANSEA/ASEA network is an active member of the new alliance ALiSEA.

The participation of the CANSEA/ASEA network in ALiSEA results in the organization of joint events, the production of reports and documents and the communication of the results of the CANSEA component on the ALiSEA website. It materialized at the end of the project with the design of the future ASSET project in which the two networks are strongly involved.

The results of the ALiSEA component

The emergence of the ALiSEA Network

ACTAE helped launch a real regional dynamic and established the favourable conditions for the emergence of a multi-stakeholder alliance sharing experiences and knowledge in four countries in the Mekong region: Cambodia, Laos, Myanmar and Vietnam.

The ALiSEA network has managed to bring together a diversity of stakeholders around an open vision of agroecology with significant participation. After four years, 160 organizations became members of the network and visible on the website (http://ali-sea.org/): 86 international and national NGOs, 19 farmer organizations, 5 networks, 30 research centers and universities, 3 government agencies, 18 private sector.

The ALiSEA network has developed activities for sharing experiences and information (workshops, field visits), putting actors in contact with each other and strengthening the organizations' capacities (training, access to technical documentation, range of communication tools).

Numerous multimedia tools have been developed allowing wide dissemination of information related to agroecology including the creation of a website that includes an online library of more than 900 documents, 5 Facebook pages in English and in different languages. a newsletter, videos, a YouTube channel with 112 videos, an animated film about ALiSEA translated into 6 languages.

ALiSEA has directly facilitated networking and knowledge sharing on agroecology through the organization of 22 national and regional multi-stakeholder workshops involving just over 1200 representatives from around 150 organizations, agencies and projects in the Mekong region.

ALiSEA supported innovative initiatives by awarding 26 small grants (through 2 competitive calls for projects with a total of 120 proposals): 6 in Cambodia, 5 in Laos, 6 in Myanmar, 7 in Vietnam and 2 Regional .

The publication of "Agroecology Futures: Inspiring and Innovating Stories from ALiSEA" collects the results of more than 20 case studies and collective actions from this small grants mechanism. This capitalization book was presented and widely disseminated during the workshop "Agroecology Futures Regional Forum" in Cambodia.

The ALiSEA network has developed several types of services including the organization of thematic workshops as learning process, the linking of people and organizations, the promotion and dissemination of documents and information of members, the support to the organization events, search for technical documents, trainers, and publication of job postings. This work must continue in order to better meet the expectations of the members and define the services provided specifically to network members.

Governance and institutionalization modalities of ALiSEA are in progress

From 2017 to 2019, four member organizations, including three national, international and one research institute, hosted the national secretariat of the network. The secretariats have largely contributed to the promotion and extension of the network. They played a major role in the organization and animation of the network's activities (workshops, case studies, visits, etc.). They contributed to the process of awarding and monitoring small grants. They also ensured a national watch on information related to agroecology to feed the website and social networks.

The organization of the four general assemblies at national level is a founding element in the emergence of the ALiSEA network. These meetings helped to strengthening membership in an alliance, to exchange views and definitions of agroecology. The network also has a charter validated by members in each country at general meetings.

The ALiSEA network is a recent initiative. This first four-year period is a phase of emergence and construction. **A process of reflection on governance was initiated with a working group set up in each country by some 15 member and voluntary organizations**. The GRET team supported the process of structuring the ALiSEA network in a participatory and flexible way to ensure a locally rooted network.

It appears crucial to continue building and structuring in a participatory approach based on national dynamics and ownership in order to achieve a network where members are actively involved in its management. On the other hand, it appeared premature to discuss modalities of financing and institutionalization of the network.

Conclusion

The ACTAE project has produced a significant set of results both technically, to promote, transmit and evaluate new agronomic systems, and at the societal and political levels, to understand the historical and socioeconomic mechanisms that allow for the change of practices.

With the emergence of ALiSEA with more than 160 members and the expansion of the CANSEA / ASEA network partnership, the ACTAE project brought together a large community of actors from research, development, governments, civil society, farmer organizations, education systems and the private sector around agroecology.

It has also worked a lot for sharing information and the collective and participative construction of new knowledge by focusing on "botton-up" approaches and taking into account national contexts. It has enabled the creation of several very attractive communication tools such as the ALiSEA website and its bookstore as well as new sharing spaces at regional and national levels and innovative methods to produce and inspire new experiences.

It collected a multitude of testimonials on successful stories based on the adoption of new agro-ecological practices.

It helped Laos to develop leadership in agroecology reflections at ASEAN level. The process must continue to strengthen political action in the development of agroecology.

It has contributed to training structures on agroecology in Cambodia called to regionalize their actions at short-term.

It has contributed to the training of university students and the production of scientific knowledge.

Many sharing activities with all stakeholders were organized in the sub-region. They have greatly contributed to increasing visibility and understanding on agroecology.

The ACTAE project has also established lasting working and trusting relationships between CIRAD and GRET and contributed to the preparation of the future project ASSET (Agroecology and Safe Food System Transitions).

All the knowledge and tools produced by the ACTAE project, already widely shared with stakeholders, are the ferment of the future ASSET project and other initiatives that will help strengthen the agro-ecological transition.

With a substantial budget granted by the European Union and AFD, the ASSET project will support technical, socio-economic and political actions to increase the agro-ecological transition in the countries of the Mekong region. It will play a key role in achieving the advances expected to increase positives impacts of Agroecology on food security and sustainable development in the region, so severely affected by past wars and currently by climatic disasters.

Acronyms

Acronym	Name	Country	Category
ACIAR	Australian Centre for International Agricultural Research	Australia	Research
ADB	Asian Development Bank		Donor
ADC	Agriculture and Forestry Research & Development Center for Mountainous Region	Vietnam	Research
ADG/ECLOSIO	Aide au Développement Gembloux	Belgium	Development
AFD	Agence Française de Développement	France	Donor
ALiSEA	Agroecology Learning Alliance in South East Asia	Regional	Network
APAS	Asia Pacific Accounting and Audit Services	Lao PDR	
ARMI	Association for Rural Mobilisation and Improvement	Lao PDR	Development
ASEA	Research and Development Platform on Agroecology in Southeast Asia	Regional	Research
ASEAN	Association of South-East Asian Nations		
AVSF	Agronomes et Vétérinaires Sans Frontières	Cambodia	Development
CA	Conservation Agriculture		
CABEP	Center for Agricultural Biology and Environment Protection	Vietnam	Research
CABI	Centre for Agriculture and Biosciences International	International	Research
CANSEA	Conservation Agriculture Network South East Asia	Regional	Research
CARES	Center for Agricultural Research and Ecological Studies	Vietnam	Research
CASC	Conservation Agriculture Service Center	Cambodia	Ministry department
CASRAD	Center for Agrarian Systems Research and Development	Vietnam	Research
CE SAIN	Center of Excellence on Sustainable Agricultural Intensification and Nutrition	Cambodia	Research
CGFED	Research Centre for Gender, Family and environment	Vietnam	Research
CIAT-ASIA	International Center for Tropical Agriculture in Asia	Vietnam	Research
CIRAD	Centre International de recherche agronomique pour le développement	France	Research
CIRD	Cambodian Institute for Research and Rural Development	Cambodia	Development

CISDOMA	Consultative Institute for Socio Economic Development of Rural and Mountainous Areas	Vietnam	Development
CMBP	Common Microbial Biotechnology Platform	Vietnam	Research
CPC	Boloven Plateau Coffee Producers Cooperative	Lao PDR	Producers
CTU	Can Tho University	Thailand	Research
DAFO	District Agriculture and Forest Office	Lao PDR	Development
DALAM / DOPC	Department of Agriculture Land Management /Department of Planning and Cooperation	Lao PDR	Ministry department
DALaM / MAF	Department of Agriculture Land Management / Ministry of Agriculture	Lao PDR	Ministry department
DALRM/MAFF	Department of Agricultural Land Resources Management / Ministry of Agriculture, Forestry and Fisheries	Cambodia	Ministry department
DARD	Department of Agriculture and Rural Development	Vietnam	Ministry department
DCA	Danish Church Aid	Denmark	Development
DeSIRA	Development Smart Innovation through Research in Agriculture (and food systems)	Europe	Funding agency
ECHO Asia	ECHO Asia	Regional	Network
EFICAS	Eco-Friendly Intensification and Climate resilient Agricultural Systems	Lao PDR	Project
FAG	Faculty of agriculture	Lao PDR	Research
FAO	Food and Agriculture Organization of the United Nations	International	
FAEC	Federation of Farmer Associations Promoting Family Agricultural Enterprise	Cambodia	Producers
FNN	Farmer and Nature Net	Cambodia	Producers
FO	Farmers Organizations		
FWN	Farmer and Water Net	Cambodia	Producers
GDA/MAFF	General Directorate of Agriculture / Ministry of Agriculture, Forestry and Fisheries	Cambodia	Ministry department
GRET	Professionnels du Développement Solidaire	France	Development
HJA	Huam Jai Asasamak Association	Lao PDR	Development
ICC	International Cooperation Centre	Vietnam	Development
ICRAF	World Agroforestry Centre	Vietnam	Research
IDEA	Indicateurs de durabilité des exploitations agricoles		
IFAD	International Fund for Agricultural Development	International	Funding agency

IFAM	NU HOANG Research institute for Fruits trees and Macadamia	Vietnam	Research
IFOAM	International Federation of Organic Agriculture Movements	International	
IPCC	Intergovernmental Panel on Climate Change, IPCC	Intergovernmental	
IPERCA	Innovative Pedagogical Resources in Conservation Agriculture for South-East Asia	Regional	Project
IPM	Integrated Pests Management		
IRAM	Institut de recherches et d'applications des méthodes de développement	France	Research
IRD	Institut de Recherche pour le Développement	France	Research
IRRI	International Rice Research Institute	International	Research
ITC	Institute of Technology of Cambodia	Cambodia	Research
JEAI	Jeune Equipe Associée à l'IRD	Cambodia	Research
KKU	Khon Khaen University	Thailand	Research
LDD	Land Development Department	Thailand	Development
LICA	Lao facilitated Initiative for a regional Coaching of Agro-ecological transition in South East Asia		
MAF	Ministry of Agriculture	Lao PDR	Ministry department
MELA	Mekong Extension Learning Alliance	Regional	Network
MIID	Myanmar Institute for integrated development	Myanmar	Development
MIPAD	Mondulkiri Indigenous People's Association for Development	Cambodia	Development
MOALI-DAR	Ministry of Agriculture, Livestock and Irrigation / Department of Agricultural Research	Myanmar	Ministry department
MOALI-DOA-LUP	Ministry of Agriculture, Livestock and Irrigation / Department of Agriculture Land Use Division	Myanmar	Ministry department
MOGPA	Myanmar Organic Grower and Producer Association	Myanmar	Private Sector
MOOC	Massive Open Online Course		
MoU	Memorandum of Understanding		
NAFRI	National Agriculture and Forestry Research Institute	Laos	Research
NAV	Natural Agriculture Village Shop	Cambodia	Private Sector
NIAS	National Institute of Animal Sciences	Vietnam	Research
NOMAFSI	Northern Mountainous Agriculture and Forestry Science Institute	Vietnam	Research

Nong Lam University	Nong Lam University	Vietnam	Research
NUOL	Faculty of Agriculture, National University of Laos	Lao PDR	Research
OcKenden	Ockenden international	Cambodia	Development
PAFO	Provincial Agriculture and Forest Office	Lao PDR	Development
PGS	Participatory Guarantee System		
PHANO	Vietnam Rural Development Science Association	Vietnam	Development
PPC	Plant Protection Center	Lao PDR	Research
PPRI	Plant Protection Research Institute	Vietnam	Research
RCRD	Research Center for Rural Development – An Giang University	Vietnam	Research
RDA	Rural Development Agency	Laos	Development
RIKOLTO	RIKOLTO	Vietnam	Development
RTA	Real-Time Analytics	Vietnam	Private Sector
RUA	Royal University of Agriculture	Cambodia	Research
SDG	Sustainable Development Goals		
SFRI	Soils and Fertilizers Research Institute	Vietnam	Research
SGF	Small Grant Facility		
SMoU	Specific Memorandum of Understanding		
SOFRI	Southern Horticultural Research Institute	Vietnam	Research
SPERI	Social Policy Ecology Research Institute	Lao PDR	Research
SRI	System of Rice Intensification		
SRU	Svay Rieng University	Cambodia	Research
Sup Agro	Montpellier Sup Agro	France	Education
TdH	Terre des Hommes	Italia	Development
TOA	Toward Organic Asia	Regional	Network
UBB	University of Battambang	Cambodia	Research
UNCCD/CCCA	Cambodia Climate Change Alliance	International	Funding agency

UNESCAP/CSAM	United Nations Economic and Social Commission for Asia and the Pacific	USA	Funding agency
UNESCO	United Nations Educational, Scientific and Cultural Organization	International	Organization
UNICAM	UNIversities in rural area of CAMbodia		Project
USAID	United States Agency for International Development	USA	Funding agency
UTIA	Smith International Center	USA	Research
VNUA	Vietnam National University of Agriculture	Vietnam	Research
VOAA	Vietnam Organic Agriculture Association	Vietnam	Development
WASECO	Waste Eco Solution Pte Ltd	Lao PDR	Development
YAU	Yezin Agricultural University	Myanmar	Research
Y-Farm	The Mekong Youth Farm Network	Regional	Network

Preamble: The genesis of the ACTAE project "Accompanying the Agro-ecological Transition in Southeast Asia"

AFD, whose mandate is "Green growth and Solidarity," is supporting for many years a sustainable agriculture in South East Asia.

Since 2009 the Conservation Agriculture Network for Southeast Asia (**CANSEA),** a network of eight research and development institutions, led by CIRAD, was working specifically on conservation agriculture in South East Asia.

In 2013, AFD commissioned GRET to study the feasibility of a regional project addressing the Great Mekong Sub-Region (Cambodia, Laos, Myanmar, Thailand, Vietnam, Yunnan / China) that would boost the agro-ecological transition in South East Asia.

The feasibility study[1] has highlighted the existence of many initiatives related to ecological intensification in agriculture (beyond conservation agriculture), a need for unifying concept to boost a wide agroecology movement, a shared interest for bridging and synergies these initiatives and a need to create links between them to enhance knowledge and experiences.

Under this context, the ACTAE project design took into account both the desire to strengthen existing initiatives around the CANSEA network and to initiate new knowledge capitalization networks. Its ambition was to contribute to an ecological intensification of agriculture with positive impacts on food safety production, poverty reduction and farming community organization.

The regional ACTAE project has been organized with two components (Figure 1) :

1. **The research and development of the CANSEA network,** which has the specific objective to produce technical and organizational knowledge and to promote their adoption with a large spectrum of stakeholders.
2. **The emergence of ALiSEA network,** which have the specific objective to network all initiatives supporting agroecology in order to strengthen knowledge and experience sharing, , increase visibility of agro-ecological movement, and scale-up the adoption of agro-ecological practices among farmers.

A logical framework has been established with specific objectives for the two components (Annex 1).

[1] CASTELLA Jean-Christophe, KIBLER Jean-François, *Feasibility study of a regional project promoting agro-ecology in the Great Mekong Sub-Region*, Vientiane, Laos, GRET, December 2013, 113 p. & annexes

For ease of reading, the technical results of the project will be presented below in accordance with this logical framework.

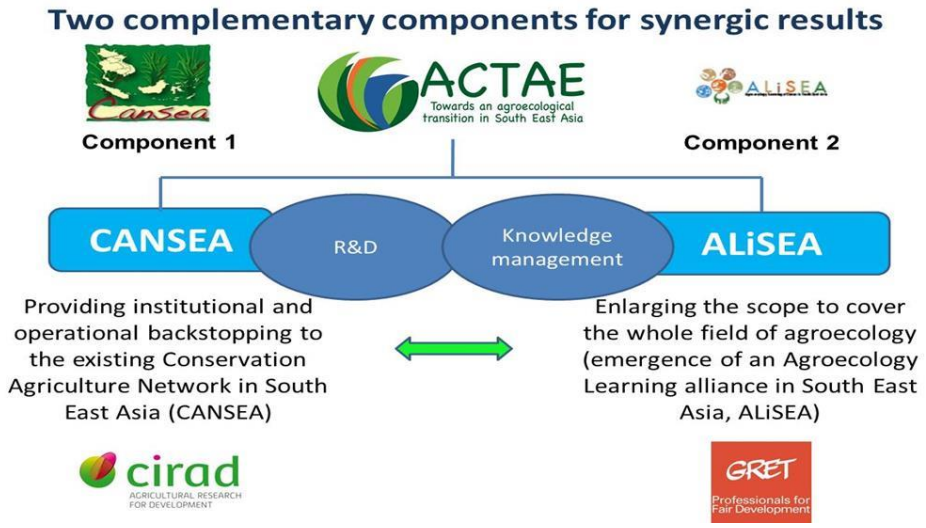

Figure 1: Organization of the ACTAE Project

Introduction and objectives

Agriculture is playing a dual role in the climate change process. It contributes almost one-third of anthropogenic greenhouse gas emissions (when account is taken of food losses and waste) while it also contributes to mitigating the effects of climate change through its ability to store carbon in biomass and soils[2].

The IPCC 2019 report makes the statement that even if we succeed to stop the increase of temperature of 2 °C., there will still a significant risk on the world food security. **This risk is higher in the southern countries,** than in the temperate zone, where the temperature rise will have more impacts on the crop cycle and because of a high dependency on natural resources and higher vulnerability[2].

[2] Blanfort Vincent, Demenois Julien, 2019. Changements climatiques et agriculture : quels enjeux, quels impacts aujourd'hui et demain ?, Diplomatie, Les Grands Dossiers, 49 : 85-89.

By the same time, **the global market and policies are looking for more safety and sustainable agriculture** with increasing demands for standards.

The United Nations Sustainable Development Goals (SDGs) make agriculture and the climate a priority issue especially in terms of adaptation. **The 4 per 1000 initiative**[3], launched by France under the Paris Climate Agreements in 2015, aims to increase carbon sequestration in soils by 0.4% per year (in the first 30 to 40 cm) through the adoption of agro-ecological practices. **The Bonn Challenge**[4] is a global effort to bring 150 million hectares of the world's deforested and degraded land into restoration by 2020, and 350 million hectares by 2030. **Agroforestry and forest landscape restoration** are opportunity both to stop the soil degradation and to mitigate climate change effect through global tree plantations[5].

Agroecology is a response to the challenge of promoting synergy between adaptation and mitigation without compromising the increase in productivity required for food demand[6] . It also supports resilient agroecosystems by enhancing ecosystem services: yield stability in the midst of climatic variability, enhancement of soil fertility, soil water-holding capacity, carbon sequestration and protection from erosion[7].

Agroecology meets many definitions. What emerges from the debates is that it encompasses several dimensions: **scientific, environmental and societal.** As a science, it studies how different components of agroecosystem interact. As a set of environmental friendly practices, it seeks sustainable farming systems that optimize and stabilize yields. As a social movement, it pursues multifunctional roles for agriculture, promotes social justice, nurtures identity and culture, and strengthens the economic viability of rural areas[8]. The most studied and implemented agro-ecological practices are the Conservation Agriculture (CA)[9] , permaculture[10], agroforestry[11] and organic farming[12] often associated to other practices such as intercropping or integrated livestock management in complex and diversified farming systems (agro-silvo-pastoral systems) to take advantage of complementary benefits (fodder for animals, natural fertilizers for plants, shading, product diversification) and thus to have better valuation of agro-systems. "Reasoned" agriculture can be also classified under agro-ecological practices when it aims to reduce the use of chemical inputs. It is the case for example of Agro-ecological Crop Protection (ACP)[13].

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[3] www.4p1000.org

[4] http://www.bonnchallenge.org/content/challenge

[5] Jean-François Bastin et al., 2019. The global tree restoration potential, DOI 10.1126/science.aax0848

[6] Torquebiau E. 2015. Climate change and agriculture: A selection of Cirad's expertise. Montpellier : CIRAD, 38 p. Salon international de l'agriculture. 52, 2015-02-21/2015-03-01, Paris (France). http://www.cirad.fr/en/content/download/9625/110793/version/3/file/2015-SIA+Fiches-CC-GB-web.pdf

[7] FAO 2018. Catalysing dialogue and cooperation to scale up agroecology: outcomes of the FAO Regional Seminars on Agroecology. http://www.fao.org/3/I8992EN/i8992en.pdf

[8] http://www.fao.org/family-farming/themes/agroecology/en/

9 Minimum tillage and soil disturbance, permanent soil cover with crop residues and live mulches, crop rotation, and intercropping, http://www.fao.org/ag/ca

10 A system of cultivation intended to maintain permanent agriculture or horticulture by relying on renewable resources and a self-sustaining ecosystem https://www.collinsdictionary.com/dictionary/english/permaculture

11 Crops associated with trees

12 Organic farming http://www.businessdictionary.com/definition/organic-farming.html

13 Agroecological Crop Protection (ACP): ACP is the declension of Agroecology to Crop Protection and it is at the crossroad of Agroecology and Crop Protection. It aims at "replacing" chemicals, which have negative effects on the environment and on human health, by the services offered by functional biodiversity above and below soil surface13: https://www.springer.com/gp/book/9789402411843.

In South East Asia, after the restoration of peace in the Mekong region, agriculture drastically changed from subsistence-based integrated farming systems toward intensive and mono-cropping practices drive by market demand. Following significant human migration, and to offset the scarcity of labor force, the use of mechanization in land preparation and harvesting improved a fast increase in the cultivated area. Deforestation is often practiced to expand arable land with regretful impacts on erosion, loss of water and biodiversity resources, and gradual soil exhaustion. The soil degradation induces disastrous consequences for food security and family farmers.

By the same time, a lot of traditional knowledge in agriculture has been lost or underutilized. It could be observed these similar trends of agrarian transition in multiple regions of Laos, Cambodia and Vietnam.

In the highlands, the establishment of boom crops leaves only one cycle of rice and exhausts the soil. In the lowlands, in the flood zones, one can observe 2 or 3 cycles of rice a year with a loss of fertility and productivity of the soil. In peri-urban areas, the main problems are related to food security and safety, with questions about the implementation of a sustainable market gardening without chemical inputs meeting the expectations of consumers.

Although there are already initiatives supporting agroecology in the region, it is still under developed on a large scale. The main reasons are the lack of know-how and knowledge, the difficulty of circulating useful information, the lack of seed market, the difficulty of involving producers in the implementation of innovations, the scarcity of impact assessment analyses to demonstrate the value of agro-ecological practices, the insufficient involvement of small and medium-sized enterprises, the low level of mechanization related to agroecology to address lowering availability of working force and the insufficient support from policy makers.

Facing the threat due to agriculture intensification and the generalization of input-intensive cropping practices, **Agroecology is obviously requiring innovation and must be strongly promoted and supported to restore soil quality, preserve the environment, combat deforestation and re-establish forest landscapes.**

Four fronts of science open up new perspectives in research to improve agroecology implementation. With the recent research on soil and **vegetal microbiota and the holobiont**, another living space has been discovered. With **chemical ecology**, we can understand landscapes differently. **Open science and living labs** are scientific approaches that make it possible to involve all actors in innovations. **Agricultural policies become science base policies** with the payment of environmental services[14].

Thanks to the digital it is possible to globalize information across the entire value chain. With this information, the producers, practitioners can change their practices, education can prepare the young to develop agroecology, the policy makers can be better connected to the expectation of the stakeholders and the consumer will be able to change his willingness to pay for more environmental and safety products.

[14] Dr. Christian Huyghe, Inra. Relever les défis scientifiques et sociétaux de la transition agroécologique, Conférence donnée au Cirad, Montpellier le 10 juillet 2019.

There will not be significant agro-ecological transition without a strong social involvement. As agroecology is based on a multicultural dialogue between scientists, farmers and citizens, FAO and AFD recommend **the creation of collaborative networking platforms, with all stakeholders, for the collection and the exchange of agro-ecological experiences and innovations**[15]**.**

Under this context, the ACTAE project aims to build durable and effective mechanisms to consolidate knowledge and to facilitate synergies among initiatives contributing to an agro-ecological transition in South East Asia by:

1. **Strengthening and institutionalizing the existing thematic conservation agriculture network in South East Asia – CANSEA** – in its function of promoting CA effective adoption, notably through involving a wider spectrum of stakeholders, building alliances with agro-ecological movement, and diversifying funding sources.
2. **Promoting the emergence of a new regional agroecology learning alliance in South East Asia – ALiSEA** – aiming at facilitating knowledge and experiences sharing among agro-ecological initiatives and actors, at increasing the visibility and credibility of agro-ecological movement towards policy makers and consumers and at contributing to the scaling-up of agro-ecological practice adoption among farmers.

The technical activities of ACTAE were deployed in 47 actions funded under Small Grant Facilities, the organization of multi stakeholders & thematic workshops, the implementation of studies & co-research processes and the development of knowledge management & communication.

The list of the CANSEA and ALiSEA small grants is given in Annex 2.

[15] Catalysing dialogue and cooperation to scale up agroecology : outcomes of the FAO regional seminars on agroecology, 2015. http://www.fao.org/3/I8992EN/i8992en.pdf

Results and discussion

1. Project management by CIRAD and GRET on behalf DALaM

The ACTAE regional project is coordinated by CIRAD and implemented through a consortium formed by CIRAD and GRET, respectively in charge of one component.

On May 27th, 2015, Agence Française de Développement (AFD) and Le Centre International de Recherche Agronomique pour le Développement (CIRAD) signed the Financing Agreement N°. CZZ1835.01.E. The total cost of the project was estimated Euro 2,700,000 in which Euro 2,500,000 shall be contributed by AFD and Euro 200,000 shall be contributed by CIRAD.

On July 29th, 2015, CIRAD and GRET signed a Contract of delegated project management (Contrat de maîtrise d'ouvrage déléguée) for the financing and giving delegation to GRET of the project management obligations for the ALiSEA component.

The ACTAE project is located in Lao PDR under the umbrella of the DALaM (Ministry of Agriculture in LAO PDR) according to a Specific Memorandum of Understanding between DALaM and CIRAD, which describes the modalities and the responsibilities for the implementation of the ACTAE Regional Project in support of Agro-ecological Transition in Southeast Asia, signed on 11 July, 2016.

ACTAE has three governance bodies

The ACTAE governance is represented in Figure 2.

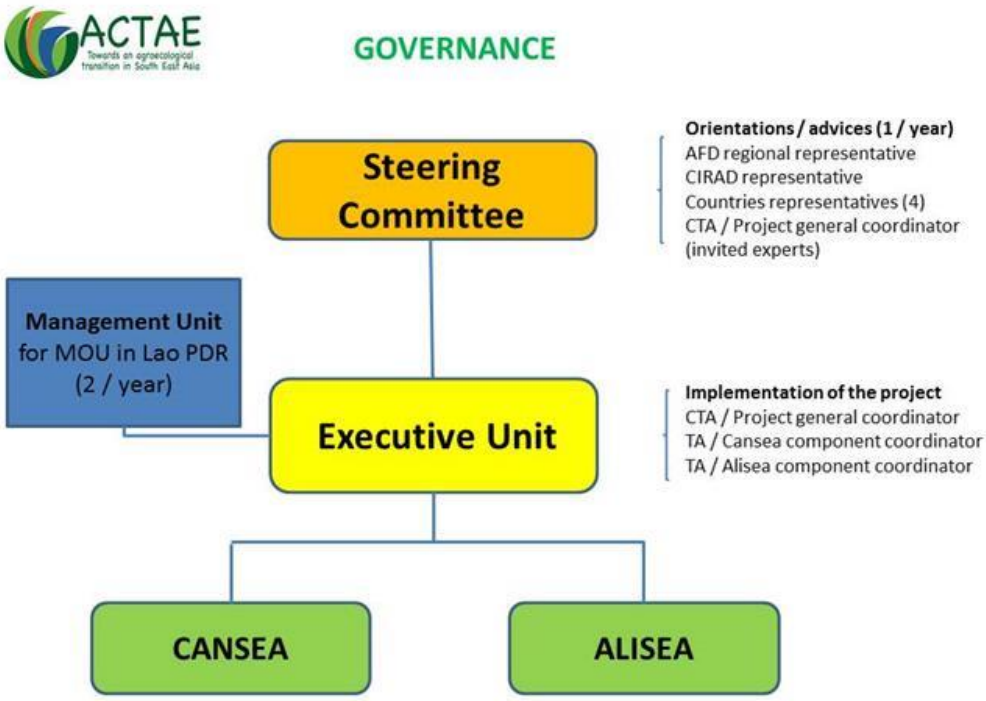

Figure 2: ACTAE regional project governance

The steering committee:

Its role is to provide orientation and advising for technical and scientific management of each of the two components (CANSEA and ALiSEA) at regional level.

It is normally composed of:

- A representative from MAF
- A representative for each of the 4 countries involved in the project[16]
- Representatives of AFD[17]
- A CIRAD representative[18]
- The CIRAD CTA[19]
- The CANSEA CIRAD Lao TA[20]

[16] Lao PDR: Dr Nivong Sipaseuth, Vietnam: Dr Quang Dang Bui, Cambodia: Ra Koy, Myanmar: Dr Win Win New
[17] Matthieu Bommier and Aurore Ungerer
[18] Dr. Philippe Girard
[19] Dr. Catherine Marquié
[20] Dr. Patrick D'Aquino

- The ALiSEA GRET TA[21]
- Potential invited experts

It was expected a steering committee per year. In the facts, three steering committees have been organized.

- Firstly on 12th of December 2016 at the Lao National Institute of Tourism and Hospitality (LANITH), Vientiane, Lao PDR (ACTAE Interim Report N° 4),
- Secondly on 10th of October 2017 at the Cambodia Hotel, Phnom Penh, (ACTAE Interim Report N° 5),
- Thirdly, on 8th of October 2019 at the New Rose Boutique Hotel, Vientiane, Lao PDR (ACTAE Interim Report N° 8). The report of this last meeting is given in Annex 6.

The management unit:

The specific management unit[22] has to manage the CIRAD - DALaM SMoU and the implementation of activities from both CANSEA and ALiSEA components in Lao PDR. Initially two meetings per year were planned. In fact, the management unit met three times:

- Firstly on September 21st, 2017, Vientiane, Lao PDR (ACTAE Interim Report N° 5),
- Secondly on May 25th, 2018, INCAFELAOS / Coffee In / Co working space, Vientiane, Lao PDR (ACTAE Interim Report N° 8),
- Thirdly April 05th, 2019, Crowne Plaza hotel, Vientiane, Lao PDR (ACTAE Interim Report N° 8).

These meetings allowed clarifying some keys points and presenting the ongoing activities implemented in Lao PDR.

Two activity reports were also produced and sent to DALaM / MAF fiving the main achievements in Lao PDR of the ACTAE project (Annex 3).

The executive unit:

The executive unit must promote synergies between activities of the two project components and share management between GRET and CIRAD. It is also responsible for reporting to AFD, with a period of 6 months, to the authorities of the Lao People's Democratic Republic and organizing events giving visibility to the project. It is composed of ACTAE CTA, CANSEA-CIRAD TA and ALiSEA-GRET TA.

The executive unit has established its office at Vatnak (Ban Thaphalanxay, Sisatanak district, Vientiane) until October 2018. Then, Catherine Marquié, ACTAE CTA used an office provided by DALaM and her personal office (Thongkhang village, Sisattanak District)[23].

[21] Lucie Reynaud

[22]The Management Unit is composed of Dr Nivong Sipaseuth, DG DALaM, Lao representative for the ACTAE Steering Committee, the representatives nominated by DALaM, the ACTAE Executive Unit members, the representative from AFD office in Vientiane (Donor) and invited people.

[23] Because the project was finishing it was no longer necessary to extend the lease and rent the Vatnak office.

The implementation of the project has undergone several adaptations

The Figure 3 summarizes the chronogram of main highlights and achievements of the project. More details on the coordination achievements are given in Annex 3.

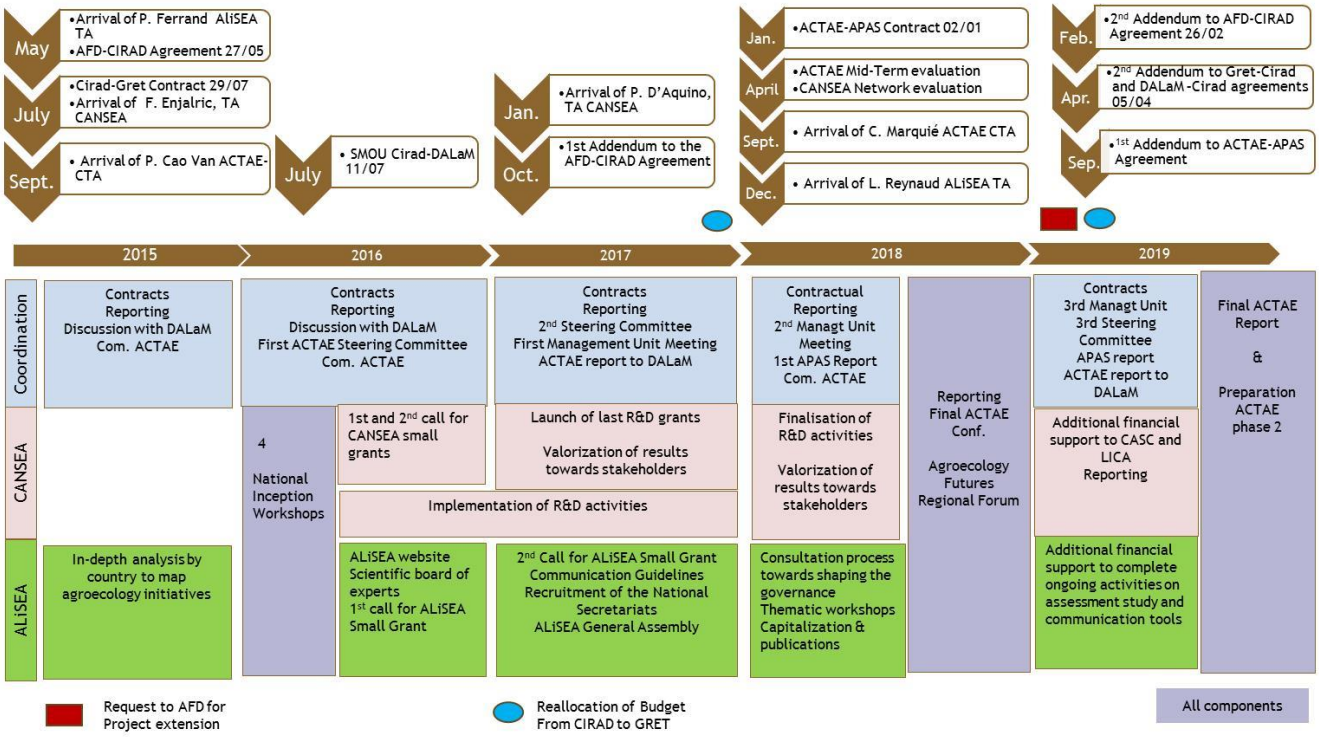

Figure 3: Chronogram of the main highlights and achievements of the ACTAE Project.

The executive unit has met many changes throughout the project with:

Two successive project Coordinator Technical advisers (CTA): Dr. Philippe CAO-VAN, CIRAD Agronomist (Lao PDR, September 2015 – August 2018) and Dr. Catherine MARQUIE[24], CIRAD Project Manager (Lao PDR, September 2018 – December2019)[25].

Two successive CANSEA Component Technical Advisers (TA): Dr. Frank Enjalric, CIRAD agronomist, (July 2015 – December 2016) and Dr. Patrick D'Aquino (January 2017, December 2019, 30% of its time). In addition, Dr. Catherine Marquié is giving also a support since her arrival to promote the CANSEA achievements.

Two ALiSEA Component Technical Advisers (TA): Pierre Ferrand[26], GRET agronomist (Lao PDR, Mai 2015 – November 2018) and Lucie Reynaud, GRET agronomist (Cambodia, December 2018 – December 2019).

[24] The Catherine Marquié mission is to finalize the ACTAE project under the best conditions for partners and AFD and to help in the preparation of an ACTAE Phase 2 (ACTAE-Interim report n° 7).
[25] At the request of CIRAD, Philippe Cao Van left Laos early in August 2018 (ACTAE-Interim report n° 7).
[26] Pierre Ferrand joined FAO in Thailand on 1 December 2018. He is still involved in Agroecology in the region with ACTAE partners.

The 3 components did not start working at the same time which led to adjustments in the technical implementation of the project and the distribution of the budget between CIRAD and GRET. Pierre Ferrand started his activities as coordinator of the ALiSEA component as soon as he arrived in Lao PDR (in May 2015) even before the signature of the agreement between CIRAD and AFD and thus without relying on coordination of the project. The CIRAD coordinators arrived later without official agreement with DALaM.

As the project was slow to start, funding for Pierre Ferrand salary and GDA / MAFF activities in Cambodia has been the subject of retroactive refund requests approved by AFD.

The time lag between the start of the CANSEA and ALiSEA components necessitated a budget reorganization to maintain the both components over the entire project duration (1st Addendum to the AFD and CIRAD agreement, signed on 30th of October 2017).

The project as a whole took a long time to set up. An agreement between CIRAD and DALaM could only be concluded in July 2016, one year after the official start of the project.

The MAF expressed dissatisfaction with AFD but also with GRET and CIRAD for not having implicated it more during the elaboration of the ACTAE regional project and the choice of partners. Many meetings were organized to clarify the situation and consider the preparation of a SMoU. Without a SMoU between CIRAD and MAF it was impossible to officially launch the project making difficult for the coordinators to start discussion with potential partners, while at the same time, activities started de be implemented in Vietnam, Myanmar and Cambodia. In addition, TA posted in Laos couldn't apply for a working permit.

The synergy between the different components has also been slow to materialize with common results.

Obviously, the added value of this project lies in the synergy between the partners. Although successful collaborations have taken place between ALiSEA and some CANSEA network members and the joint organization of events dedicated to strategic considerations and the valorisation of results, it would have been possible to do much more. The mid-term evaluation report of ACTAE strongly underlined these difficulties of synergy between the components of CANSEA and ALiSEA and put in question the recruitment made by CIRAD to manage the project. Subsequently, CIRAD replaced Philippe Cao Van by Catherine Marquié as CTA of the project.

The official launch of the project occurred with the organization, jointly by CIRAD and GRET, of national inception workshops (ACTAE Interim report n°3) in Myanmar (March 7th and 8th, 2016) followed by Phnom Penh – Cambodia (March 30th and 31st, 2016), Hanoi - Vietnam (May 5th and 6th, 2016) and finally Vientiane – Lao PDR (2nd and 3rd, June 2016). **These workshops, sharing the objectives of ACTAE with a wide panel of stakeholders, have been considered as success.**

Expecting a new project on agroecology in 2019, CIRAD and GRET asked AFD the possibility to **extend the end of the ACTAE project up to the 31st of December 2019** in order to give financial support to maintain activity and dynamics of some national networks

(ALiSEA national secretariats, LICA and Bos Knhor training center). Second addenda to the AFD-CIRAD, CIRAD-GRET and DALaM-CIRAD agreements have been signed (Annex 3).

A financial and accounting auditing in two phases

A contract for financial and accounting auditing services has been set between the ACTAE project and Asia Pacific Accounting and Audit Services Sole Co. Ltd (APAS, Vientiane, Lao PDR) on the 2nd of January 2018. An addendum to this contract has been established in September 2019, between ACTAE and APAS, to extend the examined period by the second phase Audit. The Consultant provided two times audit services:

- Statement of the Project Management and Audited Financial Statement for the Period from 1 January 2015 to 30 April 2017.
- Statement of the Project Management and Audited Financial Statement for the Period from 1 May 2017 to 31 October 2019.

The final conference of ACTAE "Agroecology Futures Regional Forum"[27] was a huge success

The final conference of ACTAE "Agroecology Futures Regional Forum" jointly organized by CIRAD, GRET and MAFF in Cambodia was a huge success from 260 participants and the press.

Over **260 participants from 21 nationalities** gathered during the Forum, to discuss the futures of Agroecology.

The overall aim of the forum was to build a momentum around the different dimensions of Agroecology that should be addressed, and consolidate a Regional Agroecology stakeholders' coalition by wrapping up the achievements of ACTAE project (Towards an Agro-ecological Transition in South-East Asia, AFD) & discussing the future of regional initiative in Agroecology.

Over 3 days, the participants could learn, share and network through 74 presentations in plenary and parallel sessions, an innovation and knowledge fair (with over 20 booths), a poster session (25 were presented) and a seed swap where more than 60 different plant species were exchanged.

Agroecology being diverse and multidimensional, a broad range of issues were addressed such as the fundamental role of crop biodiversity, the highly preoccupying status of agrochemical use in the region, the need for appropriate-scale machinery, the importance of innovative & participatory intervention mechanisms, the recognition and integration of Indigenous Knowledge, the capacity building of the new generation, the marketing of agro-ecological products…

[27] Agroecology Futures, Regional Forum, Hotel Apsara Resort, Siem Reap, Cambodia, 6th – 8th of November 2018

A panel discussion bringing together representatives from AFD, the UN Food and Agriculture Organization (FAO), the Livelihood Trust Fund (LIFT), the International Fund for Agriculture Development (IFAD) and the French Embassy highlighted the existing different initiatives for supporting an agro-ecological transition.

Lastly, in order to put into practice agroecology, this event was organized in the greener way as possible, choosing an eco-responsible venue, sourcing its coffee and fruits from local organic farms and banning the use of plastic bottles. An assessment of the carbon footprint of the event was carried out and findings were presented.
The Forum gave also the opportunities to valorise the ACTAE project results through 21 leaflets (ACTAE presentation and CANSEA grants) and a book (ALiSEA Agroecology Futures), (Annex 5).

The whole proceeding of the Forum (: https://ali-sea.org/aliseaonlinelibrary/proceedings-agroecology-futures-regional-forum/) and all the presentations are available on the ALiSEA web site: Forum (https://ali-sea.org/agroecology-futures-regional-forum-supporting-the-agroecological-transition-in-the-mekong-region/).

A new regional project on agroecology is expected

The ACTAE regional project has been evaluated at mid-term by IRAM in 2018[28].

The main conclusions could be summarized as follows:

- The objective to promote agro ecology is still relevant
- The project partially reached expected results but needs :
    - Enlarging more the networks and partnership
    - Strengthening more structured research projects giving higher visibility on products
- The CIRAD support to DALaM allowed an appreciated help to LICA with expected regional facilities at ASEAN level
- ALiSEA succeeded the emergence and the visibility of a stakeholder network joining diverse organizations but needs :
    - More aggregation of private sector, public sector, other entities
    - Establishing governance and institutionalization modalities

This report also mentions the complementarity of CIRAD and GRET in their capacity to mobilize each of the specific categories of actors in a context of cleavage between civil society and government.

Based on this assessment and as part of its policy of supporting agroecology in South East Asia, **AFD has decided to grant funding for another project after ACTAE.**

[28] Premières conclusions de l'évaluation mi-parcours projet ACTAE (Marion TREBOUX, IRAM, mars 2018)

A feasibility study, entrusted by AFD to Jean-Marie Brun and Marion Treboux (IRAM), has been carried out (from November 2018 to April 2019) to define the main structural components, partnership and priorities of an ACTAE project phase 2.

The first orientations of the feasibility study have been discussed in January 2019 at a regional meeting[29] co-organized within the framework of ACTAE in presence of CIRAD, GRET, AFD, IRAM and other multi stakeholders from NGO, universities, research institutions, and private sector, governmental institutions (28 participants from Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, and France). Presentations on ACTAE and brainstorming exercises allowed the participants to be involved in thinking about the role and place of R4D in a second phase of ACTAE.

Following this meeting, IRAM made two proposals depending on the amount of the budget: one at 5 M € for 4 years and one at 10 M € for 5 years, more ambitious for the establishment of regional R4D activities.

AFD confirmed that it has the capacity to finance a new project on agroecology in South East Asia up to 5 M€.

In the same time, the European Union (UE) launched in March 2019 a call for expression of interest on Climate-relevant Development Smart Innovation through Research in Agriculture (and food systems) in developing countries – DeSIRA. The agro-ecological intensification was one of the 5 priority themes in Asia/Pacific. The amount of a proposal could vary between EUR 5 to 10 M€ for a maximum duration of 5 years.

The new project concept discussed by CIRAD and AFD was very much in line with the objectives and expectations of the EU under the DeSIRA program. AFD, CIRAD and GRET have therefore decided to make a proposal under cover of France, with a co-financing of 5 million euros from AFD.

A brief concept note proposal "Agroecology and Safe food System Transitions (ASSET, 7 M€ requested from EU) has been elaborated, submitted through France to the EU in April 2019 and accepted.

A more finalized ASSET Concept note has been then written taking into account the outputs of a second regional meeting jointly organized by GRET and CIRAD within the frame work of ACTAE[30]. It has been submitted to EU on 28th of June 2019. Having the confirmation of a DeSIRA co-funding, the project building is under finalization.

[29] Research for development (R4D) support to the agroecology transition in Southeast Asia, R4D - ACTAE 2 Meeting, January 28th, 2019, Vic Bangkok Hotel, Thailand

[30] Workshop "Moving forward with ASSET: Agroecology and Safe food System Transitions in South-East Asia", New Rose Boutique Hotel, Vientiane, 11 – 12 June 2019.

2. Component CANSEA achievements

The CANSEA component is coordinated by CIRAD Technical Advisers[31]. Its activities really started in 2016 while being the establishment of the SMoU between CIRAD and DALaM.

The CANSEA Component objective is to strengthen and institutionalize the existing thematic conservation agriculture network in South East Asia – CANSEA – in its function of promoting CA effective adoption, notably through involving a wider spectrum of stakeholders, building alliances with agro-ecological movement, and diversifying funding sources.

It is important to specify that in the ACTAE project, the CANSEA component is not the CANSEA Network. Indeed, the fact that a component of the project bears the name of the network can be a source of confusion, especially in communication actions.

The CANSEA Component contributes to the CANSEA Network by financial support to strengthen promotion of conservation agriculture and partnership actions in order to extend the network. In this way, The ACTAE project allowed to reinforce internal relationship with the CANSEA members and also to attract other institutions.

The CANSEA Network is also one of the CIRAD labelled Research and training platform in Partnership. As such, it receives an operating budget from CIRAD for animation as well as a contribution (non-financial) from its members. It has its own steering committee and is regularly evaluated by independent experts. The last evaluation has been held in Battambang (Cambodia) from 25 to 27th of April 2018.

R1.1: CANSEA HAS WIDER AND MORE DIVERSIFIED MEMBERSHIP AND A CONSOLIDATED GOVERNANCE AND MANAGEMENT

Evolving governance taking into account the diversification of research themes and partnership

At the beginning of the project, the CANSEA Network created in 2009 was made up of eight institutional partners from six South East Asian countries[32]. Its mission was to conduct relevant activities to develop and promote **Conservation Agriculture** at the regional and national levels in order to increase both agricultural production and productivity as well as to preserve environment.

[31] Frank Enjalric from January 1st, 2015 to December 31st, 2016, Patrick D'Aquino (30% of time) from January 1st, 2017 to December 31st, 2019 and Catherine Marquié from September, 18th, 2018 to December 31st, 2019

[32] The Ministry of Agriculture, Forestry and Fisheries (MAFF), in Cambodia; the Yunnan Academy of Agricultural Sciences (YAAS) in China; the Indonesian Agency for Agriculture Research and Development (IAARD) in Indonesia; the Ministry of Agriculture and Forestry, the Department of Agricultural Land Management (DALaM) following the National Agriculture and Forestry Research Institute (NAFRI) in Lao PDR; the University of Kasetsart in Thailand; the Northern Mountainous Agriculture and Forestry Science Institute (NOMAFSI) and the Soils and Fertilizers Research Institute (SFRI) in Vietnam, the University of Queensland in Australia which joined the network in 2014.

To do that, the CANSEA network strategic plan "2014 – 2018"[33] challenged three major issues for rural development in the sub-region:

- The restoration of soil fertility in degraded areas
- Providing alternatives to Slash & Burn systems as well as to intensify and diversify the existing upland farming systems
- Developing a capacity for "Human Resources Development" to address the need of all CA development and dissemination actors.

By implementing 3 core activities dedicated to conservation agriculture:

- Production of knowledge
- Capacity building
- Communication and lobbying

Although CANSEA relies on its 8 core members, linked by a SMoU, concretely some of these members have been poorly active and the research and training activities have been largely carried out by external members, in partnership within ACTAE or within other projects.

In addition, since 2015, **the CANSEA's research themes have evolved towards agroecology in its whole**. Although conservation agriculture remains predominant, the ACTAE grants have made it possible studying, exploring and valorising other practices such as organic agriculture, agroforestry, integrated livestock management, integrated pest management, intercropping, and inoculation of microorganisms (Figure 4). All these projects led to the development and acquisition of new knowledge and pedagogical tools, the co-designing and evaluation of agro-ecological systems and actions aiming at demonstrating good practices to beneficiaries.

The CANSEA Network evaluation carried out in April 2018 in Cambodia, underlined this openness and recommended the enlargement of partnership to cover all suitable practices useful for an agro-ecological transition in the region.

[33] CANSEA Strategic plan 2014 – 2018: Promote – Develop – Disseminate, Innovation and ecologically more intensive farming system in South East Asia / CANSEA – Vientiane: Conservation Agriculture Network for South East Asia (CANSEA), 2013., National Library of Laos Cataloging in Publication Data, CIP, 33p.

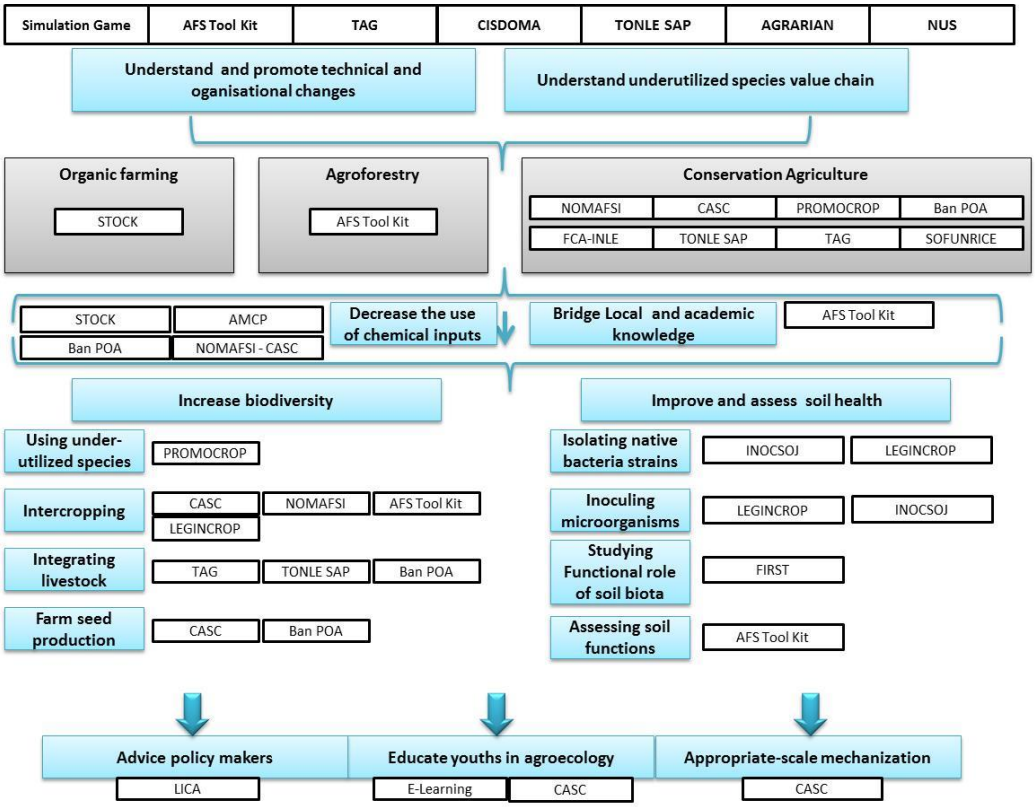

Figure 4: Agro-ecological practices and R&D topics addressed by the CANSEA grants.

The brainstorming organized in Battambang[34], brought out many ideas on research and the modalities to be implemented to structure a new CANSEA action plan. The proceedings are accessible with the following link: https://ali-sea.org/aliseaonlinelibrary/workshop-research-for-development-for-agroecological-transition-in-south-east-asia/

Since this event, the Agroecology Futures Forum, that closed the ACTAE project, and on the base on the CANSEA Network evaluation, the members have decided to enlarge the network, which became ASEA (Research for Development Platform on Agroecology in South East Asia). The ASEA membership will be opened to other partners according to modalities which still need to be defined.

[34] Research for development for agroecological transition in South-East Asia, Hotel Khemara Battambang, Cambodia, 23rd to 24th April 2018.

The activities at the heart of ASEA would preferentially move towards:

- The production of knowledge on agroecology in all its dimensions, on the design and evaluation of innovative crop, production and landscape systems and on the design and evaluation of intervention methods for AE transition.
- The practical training would be extended to all agro-ecological dimensions. An academic training strategy (structuring theses, supported alumni network) could be elaborated as well as practical trainings to support the agro-ecological transition (tools and methods for scenario exploration, paths of impact / theory of change, participatory and territorial approaches).
- Communication activities would be limited to communication (internal / external) of the network while other awareness activities (public events) and lobbying would be carried out / delegated to AliSEA platform.

The ASEA inception meeting will be organized on 21st November 2019 in Hanoi with a large panel of partners to:

- Discuss challenges related to the agro-ecological transition in South-East Asia,
- Find an agreement on the platform mission, objectives, status and governance,
- Identify the main orientations of a roadmap to 2024,
- Discuss funding strategy and opportunities.

So, to date, the precise list of ASEA members is not yet known, and it will depend on the interest displayed by institutions to engage in the network. But at priori, a refocusing on institutions intervening in the geographical area Mekong and having research activities on agroecology seems relevant. The idea is not to involve all the research actors who have worked within the ACTAE Small Grants, but to bring together a limited number of individuals (and through them their research institution) working in partnership on agroecology.

A CANSEA institutionalization impossible

Initially, it was planned that the ACTAE project promote the institutionalization of the CANSEA network and its capacity to act, for all its members, in the search for new financing and the management of projects. Unfortunately, this proved to be legally impossible.

In any case, institutionalization is not essential to attract new funds. The capacity of the CANSEA/ASEA network to mobilize its partnership in the development of bankable projects has been demonstrated with the preparation of the ASSET project (second phase of ACTAE) submitted to the EU.

Among all the CANSEA small grants, 13 were co- funded by other institutions (Table 1). The cofounding mechanism of CANSEA Grants was sometime through other projects such as IPERCA (funded by Agropolis Fondation), EFICAS (funded by UE), TICA / health interface project or Beef Cattle 2 project (funded by ACIAR). We can observe the same thing for ALiSEA grants. Co-funding has been a good mean to connect altogether several initiatives working on agroecology.

CANSEA Grant Acronym	Total budget (approx.[35]) USD	ACTAE subvention (approx., USD)	Co-funding agencies
Agrarian	80 640	59 800	Agropolis Fondation
AMCP	72 700	61 900	CIRAD
Ban Poa	70 550	49 500	UE, PAFO
Bos Khnor station / CASC	138 000	81 300	USAID, Swiss Agency for Development and cooperation, UNCCD-CCCA
E-Learning	Not Available	37 840	Agropolis Fondation
FIRST	80 000	30 000	UE, Agropolis Fondation, UNCCD - CCCA
INOCSOJ	Not Available	16 400	CIAT
LEGINCROP	Not Available	33 000	CIAT
LICA	Not Available	23 850	MAF
PROMOCROP	Not Available	44 800	USAID
SOFUNRICE	36 900	16 500	IRD LMI Rice
TAG	Not Available	45 500	UE, ACIAR
TONLE SAP	Not Available	15 550	USAID

Table 1: ACTAE and Co-funding contributions to CANSEA grants

A stronger partnership with more than 50 diversified institutions

About 50 contracts, addenda to contracts or scientific collaboration agreements have been signed with 18 partner institutions (Annex 3) either directly with DALRM / CASC (Cambodia), DAlaM and NUOL (Lao PDR), CISDOMA and NOMAFSI (Vietnam) DOA-MOALI (Myanmar) **or through collaborations with CIRAD:** AVSF, ECOLAND (Cambodia), CPC, EFICAS (Lao PDR), CIAT, ICRAF, NIAS, PPRI, SFRI, SOFRI, Can Tho University (Vietnam) and IRD (France).

CIRAD teams were in charge of 13 grants: AFS-Tool-Kit, Agrarian, AMCP, Bos Khnor Station/CASC, FIRST, INOCSOJ, LEGINCROP, LICA, Simulation games, SOFUNRICE, TAG, TONLE-SAP and E-Learning. These projects were carried out in partnership with other Asian, French, American or Australian institutions (Table 2). These partnerships are linked to CIRAD or CIRAD's institutional partners in South East Asia under other conventions.

This involvement of CIRAD in the leadership of projects may seem disproportionate. It was highlighted as a negative point in the ACTAE's mid-term evaluation report. However, through collaborations between CIRAD and Southeast Asia partners, capacities and knowledge were built. CIRAD played a driving role in the emergence of these joint actions of mutual interest.

[35] Approximatively because of the conversion rate between EURO and USD

In the end, more than 50 partners of various profiles were mobilized on the grants managed by the CANSEA component (Table 2).

The partners are mainly composed of research actors, which is quite logical given the CANSEA's Network objectives. However, the CANSEA actions also brought together government institutions of 4 countries in the sub-region, NGOs, other projects and private partners to a lesser extent with which strong and lasting collaborations were initiated.

Regarding the project geographic scope, with the exception of CISDOMA, NUS, FCA-INLE and NOMAFSI, the actions covered a multilateral dimension, involving at least two countries in South-East Asia.

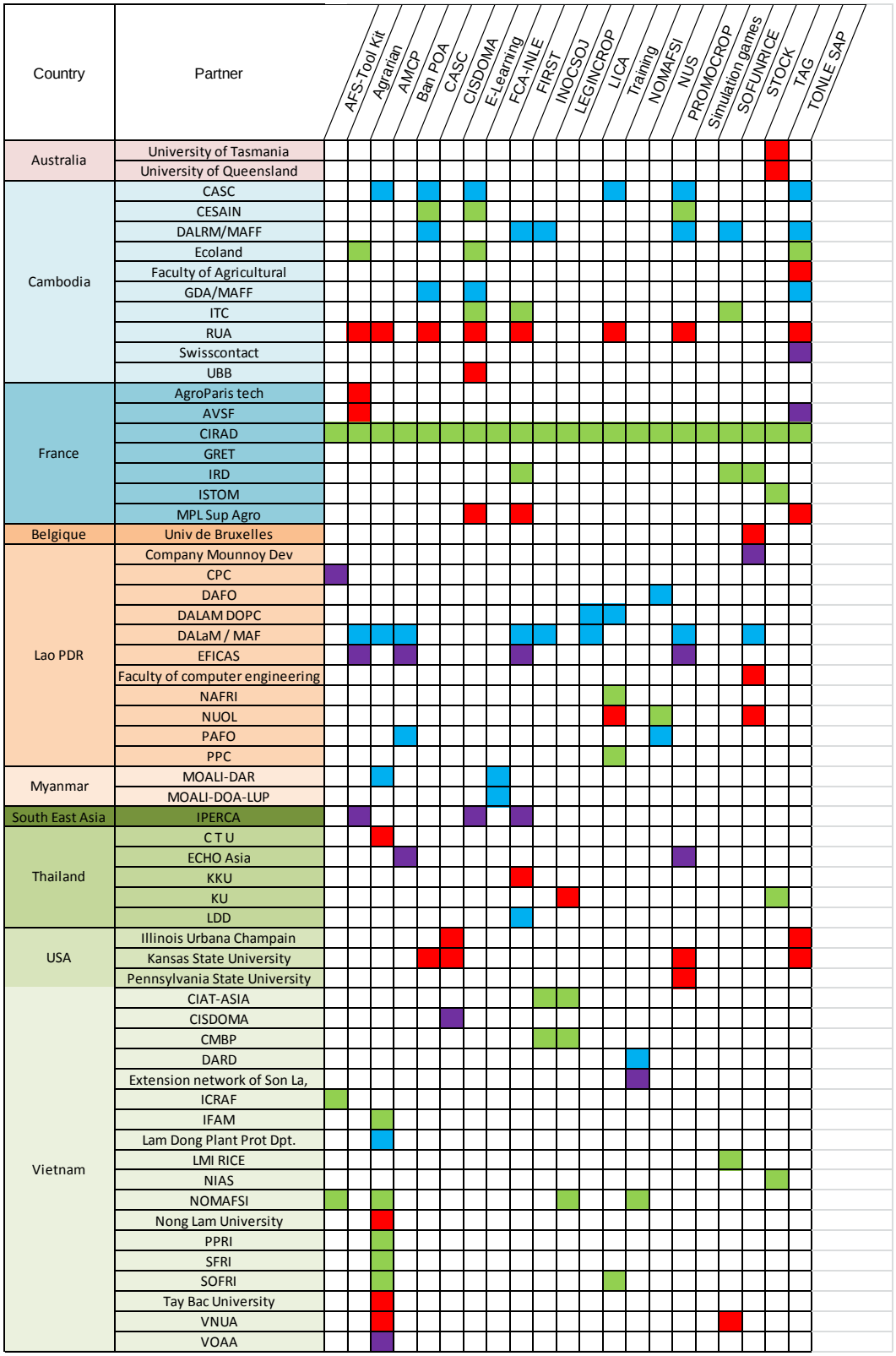

Table 2: CANSEA component partnership (Red: universities, Green: research institutes, Blue: MARD and departments, Purple: NGO, development institutions, development projects)

ALiSEA remains the only knowledge platform communicating and promoting the CANSEA grants results in agroecology.

In 2016, after an unsuccessful attempt to host the CANSEA website by CIRAD, it was decided to host it at NOMAFSI[36] and recruit a consultant to put it in shape. Mr. Robert Brown was appointed for a consultancy mission in December, 2016 to creating an ACTAE website portal, updating and improving the CANSEA website. Unfortunately, problems of health obliged Mr. Brown to stop definitely his work. The decision was made in April 2018 (Interim report n°6) to continue using the CANSEA website hosted and managed by NOMAFSI in its initial form.

ASEA Network will have to completely rebuild the CANSEA website. This will be done through connections to the ALiSEA website and the future ASSET project.

Pending the start of the ASSET project, final narrative reports, publications and conference proceedings produced by the CANSEA component have been uploaded on the ALiSEA website.

R1.2: CANSEA IS ABLE TO SUSTAINABLY PROMOTE AND SYNERGIZE PROJECTS AT NATIONAL AND REGIONAL LEVELS.

During the national inception workshops, many key issues related to production factors, dissemination of innovation, access to the market and policy support were discussed by stakeholders.

Key agroecology principles were adopted by CANSEA and ALiSEA coordinators to build the framework of TOR for grant's application:

- Better use of local and available resources
- Sustainability: develop long term approach for balanced ecosystem
- Adaptability and flexibility to local context
- Farmers' involvement
- Enhance diversity

From this base, **the both components' coordinators have decided to set up specific grant schemes, taking into account the targeted stakeholders and kind of expected deliverables.** Their strategy is described in the ACTAE Interim report n°3.

Implementation of competitive grant schemes for 9 co-funding R&D projects with multi-stakeholders' involvement

The procedure for ACTAE calls for proposals and the main achievements of CANSEA small grants are respectively given in Annex 4 and Annex 5.

[36] http://cansea.org.vn/

The first call for proposals has been launched on 30th of April 2016 towards CANSEA members and associated teams (ACTAE Interim report n° 2). The selection committee was composed of the Executive Unit, Mr Olivier Gilard (AFD representative in Lao PDR) and Mr. Thierry Benoit (IFAD South Asia representative). Among 5 proposals received, 3 have been accepted according a list of predefined criteria: FIRST, Agrarian, Simulation game.

The second call for proposals has been launched in September 2016 with a deadline for application on 22nd October 2016. Among 36 proposals received, 8 were eligible and 5 were approved: AMCP, TAG, LEGINCROP, STOCK, and FCA INLE.

The third call for proposals, dedicated to agroforestry, has been launched in October 2017. Six proposals were received and only one selected (AFS Tool Kit).

To improve more Southeast Asian partner's involvement in R&D CANSEA activities, it at been proposed to associate some of them, at posteriori, within accepted grants. This decision has not been validated by the 2nd steering committee.

Implementation of 8 additional grants called "New activities"

Following the CIRAD request, in 2017, a part of the remaining available budget of the coordination and CANSEA components was used to finance **new activities** under mutual agreement, with the consent of AFD. By the same time, **CIRAD and GRET proposed to postpone the end of the technical activities from the 30th of June 2018 to the 31st of October 2018**. New activities have been implemented before mid-September 2018 in order to report their results at the ACTAE final conference. A total of 8 new activities were carried out: CISDOMA, E-Learning, INOCSOJ, LICA, Project design, NUS, SOFUNRICE and TONLE SAP.

Providing financial support to build partner capacity in project design

Following the observation on the low number of proposals received at CANSEA calls it has been decided to dedicate one of the new activities on capacity building on project design[37]. Training has been organized on 22th to 24th of May 2018, in Vientiane, for 7 south Asian partners (NAFRI, DALaM, NUOL, SOFRI, Institute of Fruit and Macadamia Trees, RUA, CASC/DALRM) and for 1 CIRAD researcher. The objective was to transmit a methodology and applied tools for assembling R & D projects. The training was based on practical exercises around a concrete case of response to an offer call.

A total of 19 R&D small grants have been managed and successfully completed by the CANSEA Component.

The final activity report on each action can be consulted by using the ALiSEA Website links (Annex 5).

[37] Training "Designing R&D project", Vientiane from 22 to 24 May 2018, Claire Khoury, CIRAD.

All the results have been at least presented in poster and/or oral communications at the Forum Agroecology Futures, in November 2018. They have been widely disseminated to practitioners, agro-ecological, scientific and academic communities in a variety of ways.

In total, the research actions contributed to 44 papers in conferences, 31 activity reports, 31 brochures and popular articles, 16 videos, 15 teaching tools, 14 training courses, 10 diploma reports, 8 workshops, 7 articles published in scientific journals, 4 tools or evaluation studies, 3 positioning documents, the strengthening of 2 seed banks, construction of infrastructures, 1 book chapter and 1 database (Annex 5).

ACTAE supported 3 research and development platforms on Conservation Agriculture.

- **Bos Khnor Station / CASC in Cambodia[38]**

The Conservation Agriculture Service Center (CASC) is carrying activities at the Bos Khnor experimental Station (14.5 ha, Chamcarleu district Kampong Cham province) since 2004. Mainly based on conservation agriculture, CASC is working on rice, maize and cassava crop systems, under diversified conditions, **experimenting and demonstrating the positive impact of CA practices on soil health and biodiversity**. The activities implemented are connected with several rural communities in Kampong Thom, Preah Vihear and Battambang provinces in lowlands and in the uplands. **The Center is also providing support to farmer groups for the implementation of CA-based cropping systems and testing appropriate scale mechanization.** Field Farmer's Schools and other training are regularly organized. As an example, fifteen field days (135 attendants) were organized in 2017, thirteen so far in 2018 (257 attendants) plus a two-days training in August 2018 bringing together 50 farmers from 6 provinces and 34 development operators, governmental staff and partners from higher education and research institutes.

The Bos Khnor Station activities are sustained from the beginning by many institutions and projects (GDA, AFD, and RUA/CE SAIN) and from 2015 by ACTAE[39] to support experiments and training activities. They can be summarized as follow:

- Design and assess agro-ecological systems based on CA (conventional and organic management),
- Preservation of a large genetic bank, base seed production and sharing,
- Capacity building (farmers, development practitioners and academia/research),
- Building a scientific recognition through analytical studies (soil organic C dynamics, 4P1000 initiative and other soil functions).

The ACTAE research, carried out in partnership with CASC, is bringing science-based evidence, strengthening a scientific community and beyond practitioners working in agroecology. A lot of written publications and oral communications have been produced, transferring know-how and knowledge to academic, agroecology, practitioners and scientist (Annex 5).

[38] Support to the activities implemented by the Conservation Agriculture Service Center (CASC) in the Bos Khnor experimental Station. Project leader : Florent Tivet (CIRAD)

[39] ACTAE provided co funding on three occasions in 2015, 2016 and 2019.

In addition, **CASC is contributing to a JEAI[40] recently accepted by IRD** with the main objective to address key research topics for an agro-ecological transition of rice farming system in Cambodia around 4 main components: (i) design and assessment of innovative cropping systems, (ii) agro-ecological crop protection, (iii) soil health and (iv) quality of the products (safe and nutritious food). This initiative pools together three national universities with ITC (lead institution), RUA and UBB along with GDA, IRD and CIRAD. This great achievement is directly in line with the objectives of a second phase of ACTAE to address key development issues (sustainability of cropping systems, safe products and environment).

The seed bank is another output of undeniable interest and necessity. It is allowing producers or any other entity engaged in AE transition to access easily to a more diversified germoplasm. It makes possible the sharing of genetic resources and seeds for rice based systems diversification after wet season rice in Preah Vihear and Battambang. Seed producers (uplands of Battambang, Rattanak Mondoul district) are established since 2017 as a direct result of the technical ability of the center team to master the seed preservation and production, and to transfer these know-how and knowledge to small-scale farmers. On-farm seed production has several objectives (i) generate additional income for smallholder farmers, (ii) introduce new species (like sun hemp for instance) that brings a range of ecosystem services, (iii) empower farmers into seed production, and (iv) enhance a collective learning process within rural communities about the use of crop diversification and boost the sharing of cover/relay crops[41].

Since 2018, Swisscontact also provides support to DALRM/CASC & CIRAD through three main activities (i) engage the private sector into a transition to CA with a first focus on agricultural machinery manufacturer and service providers, (ii) develop a portfolio of training, and (iii) provide support to upgrade Bos Khnor as a regional training center. Based on the activities of this group of partners, **the Ministry of Agriculture, Forestry and Fisheries expects to launch at the end of 2019 a National Consortium on Conservation Agriculture based Sustainable Intensification (CASIC).** This consortium aims at building the connection between R4D, development activities with private sectors and policy-makers. It also aims at enhancing inter-ministerial talks on sustainable intensification and agroecology. **CASIC will thus make the link with LICA and corresponding any ASEAN initiatives, on the field of sustainable intensification and agroecology.**

Being already very attractive to agencies wishing to support agroecology in the region, this center will be a major asset to channel funding and build projects that will come after ACTAE. It will be also a bridgehead or a model for other agro-ecological initiatives.

[40] Jeune équipe associée à l'IRD

[41] CASC Activity report : https://ali-sea.org/aliseaonlinelibrary/activities-implemented-by-the-conservation-agriculture-service-center-casc-bos-khnor-station/

NOMAFSI in Vietnam[42]

NOMAFSI is the Northern Mountainous Agriculture and Forestry Science Institute (NOMAFSI) located in Vietnam.

The ACTAE project provided fund to NOMAFSI in order to continue the actions started in the ADAM project (2010 – 2014), in the northern mountainous region of Vietnam (NMR), funded by AFD. The problematic is to control the soil erosion in slopping areas by using conservation agriculture to growth maize and organic tea. To do that, **NOMAFSI is working closely with farmers, community leaders, extension officers, district and provincial officers**.

The ACTAE support allowed to maintain some of the ADAM-established CA farmers networks and reference sites, including, (i) CA maize farmers network for single cropping maize slopping land in Moc Chau district of Son La province, (ii) CA maize farmers network for double cropping maize slopping land in Van Chan district of Yen Bai province, and (iii) CA and organic tea reference site in Phu Tho province, and used these three sites for demonstration and dissemination of CA practices.

During 2016 and 2017, 79 more maize householders were supported to join the CA Network to get a total of 144 householders. Trainings were provided to 277 farmers in CA, agroecology and organic farming on herbicides use and agro-ecological crop protection. Field tests were organized for dissemination and demonstration on CA practices (Annex 5).

All beneficiaries acknowledged clear positive impact of CA practices (reduced tillage and mulch; intercropping with legume; grass contour strips, mini-terraces) on the soil (soil become softer, better capacity to keep water with less erosion) as well as some limited impacts on yields.

They discussed also the barrier to adoption of CA: In these sloppy agroecosystems, CA is asking for higher labor inputs and is inducing an increase in working days number compared to dominant practices based on residues burning and important glyphosate application. More and more young people leave countryside to work in cities. Consequently labor force availability for farming reduces and becomes insufficient during the planting and harvesting periods of main crops. **An adapted mechanization should reduce the labor and will help the scaling-out of CA practices**. When householders could harvest grass to feed cattle, they faced difficulties in bringing grasses to home. **Improving transport for goods would be also a lever to facilitate scaling out.**

NOMAFSI highlighted that for successful promotion of scaling-out and scaling-up of CA and AE it is important to develop links between farmers and existing initiatives. It recommends, for the future, to give priorities on:

[42] Promote Conservation Agriculture in the northern mountainous region of Vietnam through maintaining and out-scaling existing farmers' networks and reference sites previously established by ADAM project. Project leader: Dr. Pham Thi Sén, Nomafsi.

- “Building capacity for farmers in safe use of chemicals (for the users, the food products and the environment)
- Strengthening Research for Development on agro-ecological control of pests & diseases (ACP approach)
- Developing CA and AE systems suitable for different contexts to gradually replace mono-cropping systems of maize or cassava on slopes ... as part of the 4 per 1000 program recently signed by MARD”.

BAN POA Technical Service Center (TSC) in Lao PDR[43]

Ban Poa TSC is located in the Plain of Jars, an altitude savannah grassland of about 80,000 ha located in Xieng Khouang Province, north-eastern Laos.

It has been created in 2007 from collaboration between four partners and initiatives: the National Program in Agro ecology (PRONAE, NAFRI/CIRAD partnership), the Sector-based Program in Agroecology (PROSA, MAF/CIRAD partnership), the Provincial Agricultural and Forestry Office of XKG province, and a farmer group from Poa village. It has evolved from 2012 from a R&D Center to a governmental Center.

ACTAE project gave funds in 2017 to promote Conservation Agriculture and beyond agroecology in the plain of Jars and to co-finance the construction of the main building of the center, used by the staff (office), to organize training session. A storing infrastructure for conservation and dissemination of diversified plant materials has been also built.

The AE experiments carried out with ACTAE funds focused on the implementation of low-input cropping systems (objective towards zero herbicides) and valorisation of crop-livestock by-products.

The objective of zero pesticide has not been reached but results on the use of fast growing cover crops and adapted machinery (seed broadcaster, locally-made roller crimper) are promising.

Animal manure is valorised through biogas and compost production, vegetable and fish production.

BAN POA TSC is also preserving a seed bank for farmers (7 legumes and 7 grasses). It is working in partnership with CASC in Cambodia.

This center could probably grow more quickly if it received more support and improved its communication policy. This would make it more attractive for donors. **Its infrastructures, technical devices and its staff skill are assets for the training of producers but also to show to policy makers the positive impacts of agroecology within the frame of LICA.**

[43] Strengthening Poa Technical Service Center (TSC) in Laos. Project leader, Mr. Thissadee Chounlamountry, DALaM.

The CANSEA/ASEA network supported R&D action in agroecology

The topics of CANSEA R&D grants can be ranged in 9 categories (Figure 4): understanding and promoting technical and organizational changes, understanding value chains, integrating local and academic knowledges, improving biodiversity and soil health and crop management without chemical inputs, developing academic education on agroecology, promoting appropriate mechanization and facilitating the policy dialogue. All achievements are given in Annex 5. The main outputs can be summarized as follow.

- **To understand and promote technical and organizational changes**

Understanding and promoting technical and organizational changes of stakeholders practices is essential to overpass barriers and ease the agro-ecological transition. Learning by doing is the best mean to increase skill and knowledge while being changing of practices. It is why most of the CANSEA grants involved beneficiaries in demonstration, training and survey activities.

As an example, the FCA INLE Project[44,45] gave awareness on conservation agriculture practices to preserve biodiversity and soil health to local demo farms through the development and use of appropriate production technologies which would support the better environment and conserve natural resource in a sustainable way. The neighbourhood of demo farms has also been sensitized to adopt the experimented technologies. At the beginning, demo farmers were not familiar with farm daily records about income, expense and cultivation practices and they could not exactly record their daily income and outcome for their livelihood. Moreover, they had limited awareness to access weather information to link in their farm management practices. **Therefore, the project provided them guidelines on how to do the registration of farm results**. The farmers have raised their knowledge about farm record management, climate friendly agricultural practices, sustainable agriculture practices, and soil and water conservation practices as well as their willingness to apply soil conservation practices. **By doing this project, people improved their abilities especially awareness of other off-season income opportunities as setting the contour bunds in their farms, producing second crops and using of organic fertilizers and pesticides from by-farm products.**

The use of simulation games as training and/or decision-support tools improves the fit between farmers' strategies and innovation processes. It eases mutual understanding and makes explicit the benefices and possible trade-off attached to AE practices. Simulation games were mobilized in six CANSEA grants: CISDOMA, Simulation Game, TONLE SAP, AFS Tool KIT, Agrarian and TAG.

[44] Farmer Participatory approach on soil and water conservation practices leading to environmentally sustainable agriculture - Case study: Inle Lake Watershed area. Project leader: Dr. Thin New Htwe, DOA-MOALI.

[45] Unfortunately, the FCA INLE project has been interrupted before its end because of project leader illness (Interim report n° 7).

"Some simulation games are currently and efficiently experimented in South-Eastern Asia, for watershed management, animal diseases prevention, environmental management… These participatory methods allow taking into account both local points of views and scientific knowledge, especially about social and economic features as organizational, market-oriented, collective rules matters" (Simulation Game, final report).

With the **CISDOMA grant**[46], **numerous local facilitators were trained on simulation games and game boards were developed.** The games facilitated discussion with around 200 farmers about the adoption of new practices.

With the **TONLE SAP grant**[47], simulation games were used to assess the potential "demand" for proposed innovations, and the possible "offer" that service providers could make in terms of using no-till planters. **Farmers that participated in the games considered that the game adequately represented their farm and could propose innovation ways**. During the game, farmers used diverse ways to control free roaming of the cattle during the dry season. This involved fences made of shrubs, electric fences, and sending people to control animals (especially when land was close to the households). Some of these options were implemented collectively (especially the use of an electric fence). Control of cattle free roaming had appeared as a major constraint in the interviews done before the games, but after the game, farmers declared being much more confident in addressing the problem.

With the **AFS Tool Kit grant**[48]**, the decision-support tool "shadetreeadvice.org" has been implemented by extension agricultural services, farmers' cooperatives and NGOs** to select the tree species adapted to local ecological conditions and households' needs and constraints. This tool has been uploaded on internet by agricultural extension services of Lao and Vietnam institutions, farmers' cooperatives and NGOs. In the Northwest Vietnam, ICRAF and NOMAFSI have already organized feedback and training sessions with local stakeholders including women's group and through on-going projects. This tool is also contributing to increase farmer's motivation to adopt more widely agroforestry practices.

The **TAG grant**[49] **analysed, with smallholders, the conditions for insertion of intensive livestock production in complex agro-ecological systems based on CA**. After providing a well-documented typology of farms in the Lao and Vietnamese mountains, farmers and extension services defined scenarios for improving the feeding of cattle and buffalo. A multi-scale modelling for assessing trade-offs and synergies of integrating intensive livestock production and agro ecology options led to the creation of t**he modelling tool Xác định mô hình** (Find out the model). This tool is very useful to discuss with the farmers the impacts of scenarios on economic balances, fertilization, feeding of the animals and the available productions to sale. It is facilitating the farmer's understanding of practices that make possible profitable change.

[46] Promoting agroecology transition via enhancing farmers' analytical and decision making capacity through application of TerriStories simulation games. Project leader: Mrs Doan Thu Thuy, CISDOMA.
[47] Supporting the transition towards agroecological practices: collective land and cattle management around the Tonle Sap, Cambodia. Project leader: Dr. Florent Tivet, Nicolas Faysse, CIRAD.
[48] Documenting local tree knowledge and developing a decision-support tool to improve resilience of agroforestry systems in mountainous areas of Laos and Vietnam. Project leader: Philippe Vaast, CIRAD.
[49] Trade-off and synergies of integrating intensive livestock production with agroecology in Mountainous regions. Project leader: Mélanie Blanchard, CIRAD.

The **Agrarian grant[50] used the participatory approach and role playing games, to understand the decision making process of the farmers in relation with the land uses and the CA adoption, and explored the development pathways and lessons learned for the transition of agroecology practices.** The simulation games revealed that the farmers in Cambodia and Lao PDR were still trapped in the cycle of boom-bust with boom crops. The market opportunities and high short-term economic return are key parameters in the process of decision-making, mostly neglecting environmental aspects. Farmers are well aware of deforestation and decreasing soil fertility but these questions come second in their decisions when dealing with short term priorities. Shifting to tree crops and increasing cattle production is a coping strategy for severe land degradation and increasing risks of market and climate hazards. However, with current constraints, the farmers are generally willing to adopt the soil conservation practices and diversify their farm's activities. **The study showed the importance of opportunity window for intervention, the involvement of farming communities in co-designing alternative cropping systems and the importance of social organization and learning to integrate all stakeholders involved in the agroecology transition (final grant report).**

In the north-western upland of Cambodia and the northern mountains of Laos, the farming systems have been transitioning rapidly from subsistence (upland rice-based) to market-oriented and intensive annual crops (maize and cassava). In both sites, a process of agricultural expansion associated with deforestation characterized land use and land cover changes (LUCC).

Simulation games are also powerful tools for networking facilitation. **With the "Simulation Game"** grant[51], Patrick D'Aquino brought together many agroecology stakeholders at regional and national levels to support ACTAE's networking. **During participatory workshops, participants learned how to design and implement simulation games.**

- **To understand value chains: the case of Neglected and Underutilized Species (NUS) value chain in Lao PDR**

Neglected and Underutilized Species (NUS) are species that are locally very useful and globally under-utilized. Mung bean is one of them in Lao PDR.

The general objective of the NUS grant[52] was to analyse the mung bean (vigna radiata) value-chain in the Lao PDR. The idea was to identify market opportunities that may be both available for and accessible to smallholder mung bean farmers. **Beyond the case of mung beans, the objective was to develop a more general method of analysing value-chains for Neglected and Underutilized Species**.

[50] Agrarian dynamics in Laos and Cambodia, socio-economic & environmental impacts. Project leader: Dr. Florent Tivet (CIRAD). Its aimed at studying agrarian dynamics in Laos and Cambodia and assessing the impacts of land use changes on local livelihoods and the potential of alternative farming and cropping systems.

[51] Cross-countries training: introduction to the use of simulation games for the participatory design of contextualized agroecology scenarios with farmers. Project leader: Patrick D'Aquino, CIRAD.

[52] Study on market opportunities for mung bean in the Lao PDR. Project leader, Mrs Chitpasong Kousonsavath, NUOL.

The analyses confirmed that mung bean production and consumption in the Lao PDR is currently very limited. **Mung bean production occurs at a very small scale** (the average holding area of production was 0.8 ha/household). **The production system is highly traditional**, with a very limited use of inputs (fertilizers, machines). **There is no postharvest management and no quality control of the products** although specific harvesting and postharvest handling methods have a major impact on the quality of the mung beans.

The low quality of the mung beans produced in the Lao PDR is a major problem raised by both the collectors and the processors. As 80% of the mung beans are used to produce bean sprouts, the low quality of the mung beans has a considerable impact on the quality of the bean sprouts. Quality is a key purchasing criteria for bean sprout processors. **Immature and broken mung beans result in low germination rates, which is not acceptable for bean sprout processor**. These quality issues regarding mung beans have been discussed and shared with the farmers by the collectors but the farmers did not change their production practices.

The price of mung beans dropped since 2016 due to the importation of *thua kheak* (a black bean that is a little bit bigger than mung bean). This black bean is popular for bean sprout production because of high germination rates and because it has a better weight and is preferred by the consumers, especially in big cities like Vientiane Capital. The price of *thua kheak* is similar to that of mung beans (6,000 LAK/kg), so this new bean variety greatly affects the demand for mung beans[53].

Mung bean production in Xayabouly and Xiengkhuang provinces was almost impossible to identify. The provincial consumption of bean sprouts was very limited (not comparable to Vientiane capital). In these provinces, the mung beans used for bean sprout production came from Bokeo and Vietnam, which have a higher quality compared to Laotian mung beans. **Bean sprout processors in the two provinces declared that if the quality of Lao mung beans improved, they would rather use Lao mung bean as the price was lower (the highest Lao mung bean price was 10,000 LAK/kg, while the price of Vietnamese mung beans was over 20,000 LAK/kg). The problem was the low volume of demand**.

- **To bridge local and academic knowledge**

Local knowledge value is well described in cases studies funded by ALiSEA grants[54] and the AFS Tool Kit grant funded by CANSEA.

The **AFS Tool Kit grant[55],** documented local knowledge of tree species with respect to ecosystem services in two mountainous regions of Laos (Bolaven Plateau)[56] and Vietnam

[53] During the market study in Vientiane Capital, the team tried to interview one of the biggest bean sprout processors, who uses a lot of *thua kheak*, but he refused the interview.

[54] Transition from traditional rotational shifting cultivation to growing ecological vegetables in Long Lan village, Luang Prabang province, Laos.
Ecological vegetable cultivation of Hmong in LongLan village, Luang Prabang province, Laos
Integration of the ecological vegetables and community cattle breeding in Long Lan village, Luang Prabang province, Laos
Native eco-vegetables of Hmong community in Long Lan village, Luang Prabang province, Laos

(Provinces of Son La and Dien Bien)[57] where coffee is predominant. Around 50 tree species (Northwest Vietnam) and over 150 different tree species in Southern Laos could be found in coffee systems, hence constituting reservoirs of tree species biodiversity. It has also highlighted the fact that farmers have extended knowledge of the benefits of tree species for coffee in their agroforestry systems. Most of them are well aware of ecosystem services such as reducing soil erosion, improving soil fertility, enhancing biodiversity, preventing damages from wind and frost, and providing shade and mulch.

The project contributed to incorporating local tree knowledge in an online decision-support tool (shadetreeadvice.org) to help extension services and farmers' organizations to select/recommend the "right tree species" tailored to the local conditions (AFS Tool Kit, final report).

The right selection of tree species to associate locally with crops, combined with the relevant agroforestry practices are key elements to an agro-ecological approach of landscape management, particularly in mountainous areas of South East Asia, prone to soil erosion, cultivated with food crops such as maize and perennial crops such as coffee monoculture.

- **To decrease the use of chemical inputs**

Farmers practicing an organic agriculture (without chemical input) are facing many challenges depending on their access to water, their savings to improve the conditions of farming (tools, greenhouses, organic inputs, seeds, etc.), access to labor, occurrence of diseases and pests, access to land and access to market dedicated to only organic products. Therefore, the **STOCK grant[58] helped farmers to improve their composting techniques with organic amendment** to increase soil quality and thus crop quality. **By testing organic amendments in farmer's field, it was observed that the impact was in relation of original soil characteristics.** On soil with the highest fertility, no impact was observed. On the poorest soils an impact of liming as well as of organic matter has been observed. The results indicated that **farmers should not systematically apply compost but should adapt the use and amount of compost to the soil fertility**. **This means also that farmers should do soil and compost analysis on a more regular basis.** In addition, liming should be recommended for the most acidic soils.

Adoption of agro-ecological practices without chemical input by market gardening farmers is essential to shift toward more safety products for the consumers. When farmers shift from 'standard' farming system (using chemical and simplifying the growth conditions) to agroecology, they have to face the needs of more technique skills using labor intensive. A survey carried out by **STOCK** grant team in a pilot organic village (Thaxang) showed that farmers were, at the beginning, motivated by the perspectives of having better well-being in their life. "**They are now happier because their life has improved on this point of view"**.

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[55] Documenting local tree knowledge and developing a decision-support tool to improve resilience of agroforestry systems in mountainous areas of Laos and Vietnam. Project leader: Philippe Vaast, Cirad.
[56] In Laos, CPC and Cirad interviewed 148 farmers in 8 villages on the Bolaven Plateaux.
[57] In Vietnam, ICRAF-Nomafsi-Cirad interviewed 124 farmers in 12 villages of the Provinces of Son La & Dien Bien.
[58] Soil: Testing the impact of Organic amendments for the benefit of marKet gardening farmers. Project leader: Ms Phimmasone Sisouvanh, NUOL.

These farmers also obtained higher benefits what was also a motivation for the next farmers. Nevertheless, farmers said that they are mainly wondering by (i) the plant diseases and (ii) the access to a market dedicated to organic products (with higher prices and customers ready to pay these higher prices). **None of the farmers indicated that soil quality or compost quality was a concern for them; this has to be taken into account if researchers and extension workers want to promote soil management that fits with agro-ecological practices.**

Another main constraint for the organic management is related to the weed pressure. The perennial legume cover crop on the inter-row of orchards are used (i) to eliminate the use of herbicide during both the immature and mature stage, (ii) to stop the mechanical operation (plough) that has a negative impacts on tree growth (cut of the lateral roots but also losses of water and nutrients), (iii) to reduce the prevalence of weeds and (iv) to move to an integrated management of weeds through the recycling habit of the perennial legume. Several species of perennial legume were adapted on Red Oxisol, Mollisoils and alkaline soils in Cambodia (Bos Khnor Station/CASC project[59]).

Sorghum is a very powerful tool as cover crops species to move to an integrated weeds management (Bos Khnor Station/CASC grant[60])**.** It is also possible to use several organic products and tools of the microbial ecology such as *Trichoderma harzinium*, *Beauveria bassiana*, *Metarhizium anisopliae*, *Bacillus thuringensis* and *B. subtilis*. CASC team uses also these products in the lowlands and irrigated rice to reduce the prevalence of blast (*Magnaporthe oryzae*), rhizoctonia and others fungi.

Agro-ecological Management Crop Protection (AMCP) aims at "replacing" chemicals, which have negative effects on the environment and on human health, by the services offered by functional biodiversity above and below soil surface. AMCP is completely coherent with Conservation Agriculture, particularly with the priority given to soil health and to biodiversity in the agroecosystems. In this respect, the **AMCP grant[61] was involved in structuration, promotion and implementation of interfaces between agro-ecological soil management and agro-ecological biodiversity management. It contributed to the opening of a new approach of agro-ecological practices in SEA in the field of Crop Protection.** It focused on training, sharing and building knowledge with researchers, extension officers, stakeholders, growers from Myanmar, Vietnam, Cambodia, Lao PDR. It organized the AMCP International Scientist School (Can Tho, Vietnam, 11-16 March 2018) providing the opportunity for 33 participants to learn more about the AMCP approaches. It allowed the participation of one Vietnamese as student at the International Scientist School held in Volterra (Italy), 11-16 February 2018 and promoted other exchanges between southeast partners and the Reunion CIRAD laboratories to be trained on AMCP. Many knowledge building and sharing supports on AMCP have been provided in local (Annex 5).

[59] Support to the activities implemented by the Conservation Agriculture Service Center (CASC) in the Bos Khnor experimental Station. Project leader : Florent Tivet, CIRAD

[60] Support to the activities implemented by the Conservation Agriculture Service Center (CASC) in the Bos Khnor experimental Station. Project leader : Florent Tivet, CIRAD

[61] ACP-ACTAE Project: Agroecological Management Crop Protection. Project leader: Dr. Jean Philippe Deguine, CIRAD.

- **To improve and assess the soil heath**

Soil is an important component of terrestrial ecosystems with respect to the achievement of major ecosystem services such as food production, regulation of climate change or provision of clean water.

Soil health is determinant for soil quality and fertility. Microbial communities play an important role in soil health and soil fertility through their supporting roles in two main ecosystems services i.e. carbon transformation and nutrients (N, P) cycling. **Soil quality** is the capacity of a specific kind of soil to develop functions, in natural or managed ecosystem, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation (Karlen *et al.*, 1997[62]).

No till, sowing green and management of high diversity cover crops mixtures are key elements in conservation agriculture to improve soil functions and soil ecosystem services. Mix of cover crops were used at Bos khnor and promoted in the uplands and lowlands of Battambang **prior sowing the main crops** mainly rice and maize (Bos Khnor Station/CASC grant[63]) to improve water and nutrient-use efficiency while improving the crimping operation[64]. **The technology of green sowing brings a higher flexibility as the sowing and rolling are done the same day in only one pass**. The soil is also sustained by the above and belowground biomass of the cover crops meaning that the field operation is facilitated when compared with a plough-based management with a narrow window for the sowing and no possibility to work on a wet soil.

Intercropping is one of the commonly suggested approaches for increasing carbon inputs and reducing drought stress for the following crop when used as mulch cover in water limited systems[65]. It is also a way to increase biodiversity as demonstrated by the LEGINCROP grant[66]. Intercropping with legumes contributes advantageously to mitigate soil erosion by a better soil cover and through symbiotic nitrogen fixation.

Rhizobium are symbiotic bacteria which have the ability to come into symbiosis with legumes crops (peas, beans, soybeans, peanuts) and cover/fodder crops by forming nodules. This mutually beneficial symbiosis allows bacteria to benefit from carbon substrates giving by the legume (photosynthesis) while, in exchange, the bacteria will fix and reduce atmospheric nitrogen to ammonium, directly available for the host plants. Using commercial Rhizobia is a

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[62] Karlen, D.L., Mausbach, M.J., Cline, J.W., Doran, R.G., Harris, R.F. & Schuman, G.E. 1997. Soil quality: A concept, definition, and framework for evaluation. *Soil Science Society of America Journal*, 61: 4–10. https://doi.org/10.2136/sssaj1997.03615995006100010001x

[63] Support to the activities implemented by the Conservation Agriculture Service Center (CASC) in the Bos Khnor experimental Station. Project leader : Florent Tivet, CIRAD

[64] sorghum, sunnhemp, cowpea and kenaf before maize sowing; Maize sown on green cover crops (sorghum + sunnhemp + kenaf + cowpea), Sowing of soybean on mulch of *S. guianensis,* Mix of pearl millet, sesbania, sunnhemp and kenaf, Mix of sorghum, juncea and kenaf on sandy soil before green sowing of rice.

[65] Mazzoncini, M., Sapkota, T.B., Bàrberi, P., Antichi, D., Risaliti, R., 2011. Long-term effect of tillage, nitrogen fertilization and cover crops on soil organic carbon and total nitrogen content. Soil Tillage Res., 114, 165-174.

[66] Do Legume-based intercrops concurrently halt soil erosion, boost soil health and strengthen (natural) pest control services in cassava cropping systems in Northern Vietnam? Project leader: Didier Lesueur, CIRAD.

sustainable alternative to the use of mineral fertilizers. **The INOCSOJ grant[67] demonstrated, in soybean cropping systems, that many Rhizobia commercial products are of poor quality.** Their application on soils results in little to no effect on legume crop yields. **These results highlight the need for improved quality inoculants that farmers can trust if alternative management practices are to be promoted for legume production in South East Asia.** The project identified native bacteria strains that could be used to formulate inoculants that would perform better in South East Asia.

Native rhizobial strains selected and isolated by LEGINCROP grant[66], when inoculated on cowpea, significantly improve nodulation, yield and biomass relative to un-inoculated cowpea. The demonstration was given on the possibility of locally preparing rhizobial inoculants effective for cowpea. Meanwhile, by taking more benefits of the legumes, farmers can significantly reduce the applications of mineral fertilizers and save money and move on with more friendly environmental agricultural practices.

Arbuscular Mycorrhizal Fungi (AMF) is a naturally-occurring beneficial soil organism that forms a symbiotic relationship with plant roots. It is considered as natural bio fertilizer, since it provides the host with water, nutrients, and pathogen protection, in exchange for photosynthetic products[68]. The LEGINCROP grant[66] assessed the capacity of both intercropped cowpea with cassava to form root symbiosis with native AMS in Van Yen District (Vietnam). A similar good mycorrhization of cowpea and cassava, according to the landscape, has been observed. It means that there is no need, in this case, to think about a possible utilization of commercial mycorrhizal inoculant to sustain the yields.

Both bacterial and fungal communities in soil are strongly but differently impacted by both the crop species and the management practices (INOCSOJ grant[67]). The soil fauna (macrofauna and microfauna) is significantly higher and more diverse in intercropping system than in the mono cropping fields (LEGINCROP grant[66]). Other scientific evidences of the impact of agricultural practices such as tillage and cropping systems level of diversity (e.g. mono cropping vs multi-cropping systems) on soil microbial communities have been given by the INOCSOJ grant[67]. Tillage has the strongest impact on the bacterial community as compared with cover crops or rotation. Within the rotation treatments, the nature of the crop species seemed to have a limited effect on the bacterial communities.

Some nematodes are part of underground allies that have a role of decomposers, transforming dead plant and animal matter into black soil, called humus. They release mineral elements, especially nitrogen, necessary for the growth of plants. **Others are harmful to crops. Plant Parasitic Nematodes (PPN)** cause extensive damage and substantial yield losses in lowland and upland paddy fields in Asia. To date, no rice lines resistant to PPN infection are available for farmers (SOFUNRICE grant[69])**.**

Nematode faunal composition may be a useful monitor of environmental conditions and ecosystem function in the soil. As demonstrated by the SOFUNRICE grant[70],

[67] Soybean cropping systems in South East Asia: Assessment of rhizobial inoculant quality and effect of management practices on the associated soil microbial populations. Project leader: Didier Lesueur, CIRAD

[68] Front Microbiol. 2015; 6: 1559. Published online 2016 Jan 19. doi: 10.3389/fmicb.2015.01559

[69] Enhancing Soil functional diversity of Rice fields. Project leader: Dr. Florent Tivet, Cirad and Stephane Bellafiore, IRD.

conservation agriculture makes it possible on the one hand to increase soil biodiversity and on the other hand that the consequences of this increase seem to be the reduction of parasitism (plant parasitic nematodes). Among the nematode bacteria identified in the soil, a number of them could play a determining role in soil health. Future activities will be to see if these enrichments take place on all the rice genotypes tested and to confirm if these bacteria play indeed a role in bio-control. If the results are confirmed, these selected subsets of bacteria will be able to serve as markers of good soil health (follow the evolution of the transition of a soil in conservation agriculture) and also be directly inoculated on the seeds before sowing.

FIRST grant[70] carried out research and practitioner's capacity building on the functional role of soil biota in the evaluation of soil quality. It developed and used **Biofunctool®[71],** a set of indicators to assess soil quality based on three main soil functions: carbon transformation, nutrients cycling and structure maintenance.

Biofunctool®, was developed to be in-field, fast of use and cost-effective. It has been used in Cambodia since 2017 to assess soil quality for contrasted land uses and conservation agriculture systems, which had never been done before. Beyond the research objective, its implementation in Cambodia takes place in a capacity building programme gathering several country's universities (MSc These, Clara LEFEVRE). Using this tool it has been highlighted a water infiltration rate two times higher under no till cropping systems when compared with plough-based. In addition, the relationship between labile-C content (representing the 'fresh' organic compounds entering into the soil) and the soil respiration (representing the activity of the soil biota) showed that a trend of soil organic matter accumulation is observed under no till cropping systems. A peer review article has been published in the Soil & Tillage Research Journal highlighting the impacts of conventional plough-based management and NT cropping systems on three main soil functions with C transformation, soil structure and nutrient cycling (Biofunctool approach) (Bos Khnor Station/CASC grant, Annex 5).

Biofunctool® is a **pedagogical tool** which can be also used to support decision-making by providing science-based evidences of land use early impacts on soil quality. Nevertheless, improvements are still needed to better adapt it to annual cropping systems, sloping land, and the current limited lab facilities in Laos and Cambodia. The aggregation of existing Biofunctool® data with local-specific supplementary data (e.g. plots history, soil texture, pH, soil humidity and temperature at sampling etc.) could be used to calibrate a predictive model allowing better cross-sites analysis.

- **To increase biodiversity**

Preserving a large diversity of plants at different scales (field, farm, landscape and territory) and time is essential for smallholder farmers to be engaged into agro-ecological farming systems.

[70] Functional IndicatoR of Soil ecosysTems: investing in SMART tools to assess soil biological functioning. Project leader: Pascal Lienhard, CIRAD.

[71] It is the result of a collective work led by Alexis Thoumazeau (PhD student, Cirad) and Alain Brauman (researcher, IRD)

Conservation agriculture relies on the use of a large diversity of plants that are used in intercropping[72] and relay cropping of the main cash and staple crops (NOMAFSI, Bos Khnor Station/CASC, INOCSOJ, LEGINCROP, BAN POA, AFS Tool Kit).

Bos Khnor Station and BAN POA, to a lesser extent, managed a large diversity of species of staple, cash and cover/relay crops. All species are maintained and seeds are produced every year. The **PROMOCROP grant[73]** improved the capacities of key operators[74] in Cambodia and in less extent in Lao PDR, **to preserve, produce and share a diversity of cover/relay crops and underutilized species**. It strengthened a genetic bank to produce, store seeds and help with seed supply. It allowed seed sharing of cover crops with smallholder farmers, development operators and private sector and it disseminated the knowledge and know-how on the use of underutilized species and cover/relay crops (training, seed swap, field days, on-farm demonstrations…).

Capacity building and demonstration of good practices were given to farmers to enable them to produce seeds themselves. In Cambodia, farmers were empowered to produce seed of key cover/relay crops with mainly two Crotalaria species (C. juncea and C. ochroloeuca), Stylosanthes guianensis, Sorghum and Centrosema pascuorum. Starting in September 2017 with 4 ha of seed production, this activity extended to 34 ha. The process of seed sharing from farmer-to-farmer was obviously a powerful tool to foster the dissemination of cover/relay crops with the example of seed purchase from farmer in Sangha (**https://bit.ly/2CS9JDQ**).

AFS Tool Kit provided documented inventories on around 40 tree species in northwest Vietnam and over 150 tree species in Southern Laos in coffee systems, constituting reservoirs of tree biodiversity. The ecosystem services and disservices of the tree species have been discussed and ranked by local communities from the less to the most important. Increase biodiversity is one of the best farmer' perceptions on tree services to coffee plantation with "soil moisture", "soil erosion", "weed control", "climate regulation", "wind control", "frost control", "shade provision", "mulch provision". Farmers ranked the leguminous shade tree species (Leucaena leucocephala) as the best species based on the services provided by this species to coffee. However, according to surveys, soil fertility had the greater impact on the choice of tree species that farmers of the Boloven Plateau (Lao PDR) associated to their coffee.

- **To educate youths in agroecology**

Education and training on agroecology are central to improve knowledge and build skill of youths who will be involved in business and activities dedicated to agro-ecological transition. These actions are part of most the CANSEA grants. However, two of them, the Bos Khnor Station/CASC[75] and E-learning[76] addressed specifically education topics with the

[72] Intercropping is a farming method that involves planting or growing more than one crop at the same time and on the same piece of land."

[73] Disseminating underutilized species and cover/relay crops as a foundation of resilient farming systems. Project leader: Mr. Thissadee Chounlamountry, DALaM.

[74] Smallholder farmer, agronomists and development practitioners

[75] Support to the activities implemented by the Conservation Agriculture Service Center (CASC) in the Bos Khnor experimental Station. Project leader : Florent Tivet, CIRAD.

development of curricula and e-learning resources on different dimensions of Agroecology in Cambodia.

The Bos Khnor training center offers a showcase on agro-ecological practices. It is called to play an important role, at regional level, to accompany the transition. It is already engaged with universities and ITC on the preparation of curricula on agroecology. **A first regional specific training on Appropriate-scale mechanization and CA/Sustainable Intensification"** has been organized on 6th to 9th of May 2019 by the GDA and its partners, with demonstration plots in Bos Khnor. It received a large success with 17 countries represented (https://filesender.renater.fr/?s=download&token=c80cfb6d-41bd-ca28-cb9d-3b9315761365).

The E-Learning grant started in 2015 with a large partnership from Cambodia and France (Table 2) and funds from Agropolis foundation, and Investissement d'Avenir (Table 1). A first set of pedagogical resources on agroecology were dispatched through a management platform developed by RUA and Cirad (http://e-learning.rua.edu.kh/) and You Tube.

Nine main courses and thirty three modules were produced covering co-designing agro-ecological systems, supporting the transition to agro-ecological practices and systems, assessing the efficiency and impacts, adapting appropriate-scale machinery and on the use of cover crops.

More recently, in 2018, additional funds from CANSEA[77] helped to extend the e-learning platform at national and regional scale. For that, it has been necessary to change of system in order to increase the level of security (against high hacking risk) and to track possibilities (students' participation and scores). The Moodle system (https://moodle.itc.edu.kh/) has been chosen to be the **National Learning Management System (LMS)**.

The LMS is now hosted and lead by ITC. It is a free open-source application. All pedagogical resources have been transferred to the LMS platform and a last validation process is on-going by all authors. Indeed, before releasing the resources there are still the need to clarify the Copyright and authorship. It is expected to rollout the system to public in October 2019.

The LMS will give access to a larger community of lecturers and students, will increase the visibility and use with the main objective to attract others partners to develop additional resources. In addition, and through coming initiative such as ASSET, it is possible to look forward to develop a national and potentially a regional E-learning platform on Agroecology that will bring together Universities from Laos, Cambodia, Vietnam and Myanmar.

[76] Sharing Agroecological knowledge through E-learning. Project leader: Dr. Florent Tivet, CIRAD.
[77] Education and Training in Agroecology – Perspectives for the coming months. Project leader: Dr. Florent Tivet, CIRAD.

- **To improve appropriate mechanization**

Developing appropriate scale mechanization is a vector of agro-ecological transition.

The Bos Khnor/CASC project[78] has contributed[79] to the introduction, in Rattanak Mondul and Baron Districts in Cambodia, of **three specific machines: a no-till planter for Cassava, a roller crimper and a broadcast seeder.**

The machines were evaluated as well as their operation costs within farming systems.

The Cassava planter has been shown to improve flexibility of the crop sequence management. The roller-crimper, both for power tiller and tractor, allows developing planting green pathway with benefits on weed management, nutrients cycling efficiency as well as on labor productivity of smallholder farmers. The broadcast seeder improves the quality and productivity of sowing in standing crops or cover crops.

Collective purchase of planter by group of farmers has been tested. Collaborations with manufacturers allowed the development of regional and local made no-till planters with a price 35% to 60% lower than similar equipment imported from Brazil.

In the near future, an on line web platform will be developed to share and disseminate information to practitioners.

- **To support the policy dialog on agroecology**

ACTAE/CANSEA is supporting the Lao MAF task force on Lao Initiative Conservation Agriculture (LICA[80]) from 2017 to develop and defend a common position on agroecology. More details will be given below in R 1.3 part of this document.

R1.3: CANSEA HAS BUILT LONG TERM PARTNERSHIPS AT ASEAN LEVEL PROVIDING POLITICAL AND FINANCIAL SUPPORT TO THE NETWORK AND ITS MEMBERS

ACTAE gave a complementary support to the Lao government action[81] by providing some additional funds and an expertise for the facilitation of the Lao Initiative on Conservation Agriculture and Agroecology (LICA) process.

The DALaM is responsible, for the Lao PDR, for defending a road map on agroecology within the framework of the Lao Initiative on Conservation Agriculture and Agroecology (LICA) with the ASEAN member countries.

[78] Support to the activities implemented by the Conservation Agriculture Service Center (CASC) in the Bos Khnor experimental Station. Project leader: Florent Tivet, CIRAD.
[79] These activities received also supports from the Feed Innovation Lab for Collaborative Research on Sustainable Intensification (Approproate-Scalz Mechanization Consortium, RUA, University of Illinois Urbana-Champain, Kansas State University and USAID).
[80] Supporting regional upraising on agroecology: the LICA initiative process. Project leader: Patrick D'Aquino, CIRAD.
[81] DALaM, DOPLA and DOPF from MAF

The objective of LICA is to share, compare and homogenize as much as possible national regulations and supports to Agroecology.

The CANSEA/ACTAE supports were to improve:

- LICA meeting facilities (4 ASEAN meetings that gathered focal points from different ASEAN countries and one national meeting of the 'LICA task force');
- Financial supports to the DALaM team along its facilitation of the Lao LICA process (DSA for the DALaM staff that are in charge of the facilitation);
- The co-facilitation, with DALaM staff, of the process, from local stakeholders to the ASEAN decision-makers level. This co-facilitation aimed two objectives:

    (i) Assisting DALaM staff in implementing an innovative bottom-up and participatory process that allow field and local experiences feeding the policy makers at national and ASEAN level;

    (ii) Widening progressively LICA scope from Conservation Agriculture to Agroecology.

An on-line page is available on the ALISEA website, with an on-line database of documents of the LICA regional community of practitioners and projects **(http://ali-sea.org/lica-documents/)**. Briefs, concept notes, meeting and activity reports are also given in Annex 5. A very complete study of existing government policies, ASEAN and national initiatives provides a mapping of Lao involvement in Agroecology (https://ali-sea.org/wp-content/uploads/13-05-18-Mapping-Lao-involvement-in-Agroecology-Initiatives.pdf).

LICA is a long political process that started at the 34th Asean Ministers on Agriculture and Forestry (AMAF Meeting) in Vientiane, Lao PDR, on the 27 September 2012 (Figure 5).

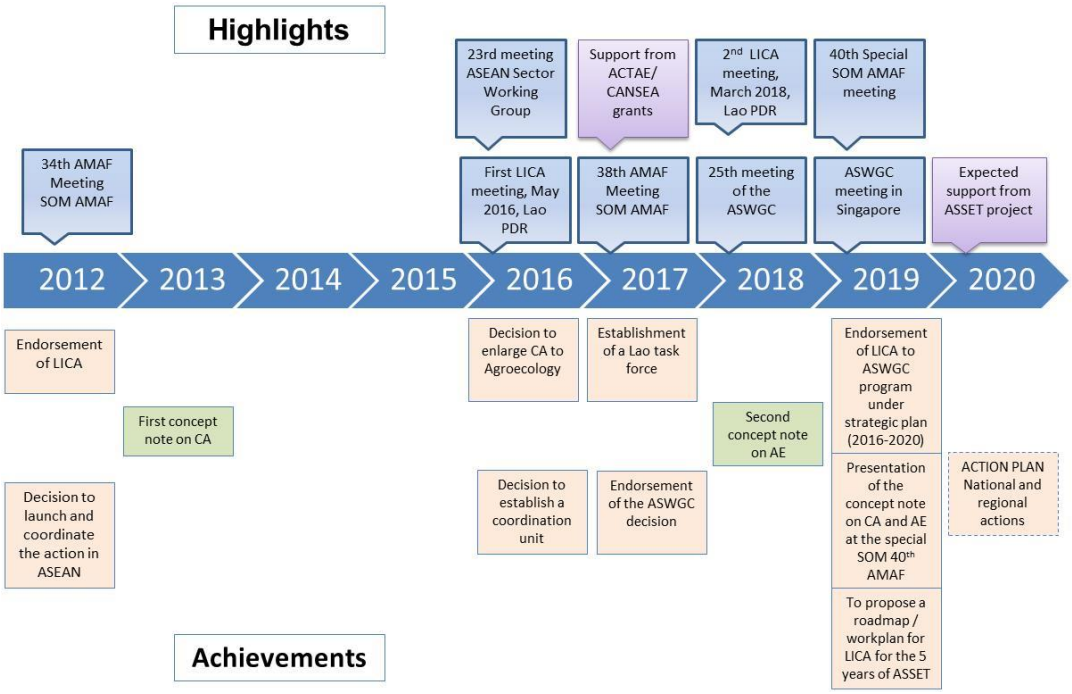


Figure 5: Chronogram of main highlights and achievements of LICA

(AMAF stands for Asean Ministers on Agriculture and Forestry, ASWGC means Asean Sectorial Working Group on Crops)

A first Concept Note, developing a common position on CA circulated at the SOM-AMAF Meeting in Malaysia in 2013.

The 1st Lao Initiative Conservation Agriculture Meeting was held on 5th to 6th May 2016, Vientiane, Lao PDR. The Meeting was attended by five ASEAN Member States (Cambodia, Lao PDR, Malaysia, Myanmar, and Singapore), ASEAN Secretariat, and domestic senior officials. It has been asked to enlarge the scope of LICA to all agroecology (AE) practices (Meeting report, Annex 5).

The main outcomes of this meeting were presented to **the 23rd meeting of the ASEAN Sectoral Working Group on Crops (ASWGC) held on 21-22 July 2016**, in Vientiane Lao PDR. It was agreed that Lao PDR facilitates the LICA initiative by establishing a coordination unit that is composed of a focal points (country representative) from each respective countries. Lao PDR will be in charge to facilitate stock-taking studies about current practices implemented among AMS. The meeting viewed that the initiative is a cross-cutting issue that deal with other sectors and suggested to set links with others Asean Sectorial Working Group (ASWG) and Climate Change adaptation initiative.

At the Lao level, a national LICA task has been set up and meetings were organized to clarify and validate the scope of LICA: "to share, compare and if possible homogenize the

national regulations to promote AE at the regional level, which will be used as a reference to draft ToR for developing Common Position of ASEAN"**. Lao PDR has endorsed the above conclusions at the Special 38th SOM AMAF meeting in Singapore, 14-15 August 2017**.

In 2018, the 2nd LICA ASEAN meeting outcomes (March 2018) was presented in the **25th meeting of the ASWGC (11-13 July, Nay Pyi Taw, Myanmar)**. It has been requested Lao PDR to come up with proposed activities that may fit under the Strategic Action Plan on Crops, *"AP 3.1 Activity 1.3.1. Promote sustainable and optimization of utilization of land and natural resources and agricultural innovation on improving productivity and sustainable agriculture production"*. **A new LICA concept note has been formulated with action plans on an ASEAN common position on conservation agriculture (CA) and Agroecology (AE).**

On 2-6 July 2019, the ASEAN Sectorial Working Group on Crops (ASWGC) has endorsed the LICA Concept Note to ASWGC program under strategic plan (2016-2020). Then, a LICA road map has been submitted to the Special Senior Officials Meeting of the Meeting of the Asean Ministers on Agriculture and Forestry (Special AMAF meeting) organized in Vietnam, 5-8 August 2019.

The next LICA 5-year phase will start probably in 2020 with AFD funds and potentially funds from European Union and the ASSET[82] Project. The objectives will be to support regular ASWGC members in order to deeply involve them into the design, steering, and monitoring of activities of the SEA regional network on agro-ecological transition.

An Action Plan will be established in order to develop national and regional actions and mechanisms in accordance with LICA proposals.

R1.4: CANSEA IS ACTIVE MEMBER OF THE NEW REGIONAL AGRO-ECOLOGICAL LEARNING ALLIANCE – ALiSEA

The participation of the CANSEA/ASEA network in the construction of ALiSEA materialized, throughout the project, with the organization of 9 joint events, the writing of reports, two promotion leaflets on ACTAE and the communication of the grant's results on the ALiSEA website (Annexes 3 and 5). Several R&D actions have also been carried out with both members of ALiSEA and CANSEA Networks.

It became stronger at the end of the project with the preparation of the ASSET project, one of whose objectives is the strengthening of ALiSEA, and in which CANSEA is contributing to R & D and political support. During this preparation, CANSEA and ALiSEA components worked closely and provided funds to mobilize their partners in the definition of the ASSET Concept.

Obviously, one of the most important results of the ACTAE project is the improvement of synergies between CANSEA and ALiSEA which allows currently the possibility to plan another project with the same operators. It is a good thing because a lot of progress has been

[82] Agroecology and Safe food System Transitions in South East Asia project

made by CANSEA and ALiSEA teams to conjugate their strength and compensate their weakness in order to put their entire talent in the future joint ASSET project.

3. Component ALiSEA achievements

The ALiSEA component is coordinated by GRET Technical Advisers. The operational GRET team of this component consists of one regional coordinator based in Laos, two national coordinators in Myanmar and in Cambodia.

Following up on an important stakeholder's consultation process and literature review, the ALiSEA component activities started in 2015. The intervention strategy relies/is based on three (3) main phases:

- **Inception Phase** (May 2015 to June 2016): build upon the key findings provided by the feasibility study, collective identification of national priorities to better understand national situation
  - Conduct **in-depth study on agroecology stakeholder mapping and situation review** in the four countries in 2015.
  - Organize **national inception stakeholder workshops** in 2016 to launch the ACTAE program, to build envision a broad coalition of stakeholders, to identify national critical issues to be addressed and draft a collective action plan.
  - **Develop communication materials** (e-book, website, leaflet, Facebook pages) to present and introduce ALiSEA network objectives and activities to stakeholders through individual face to face meetings, and participating to conference and events.

- **Enabling Conditions Phase** (July 2016 to December 2018): setting up favorable conditions for the emergence of ALiSEA by networking agroecology initiatives, encouraging synergies among stakeholders and disseminating successful agroecology practices
  - **Foster networking** through the organization of multi-stakeholder events to shape the governance of the network and address priority issues for mainstreaming agroecology (National General Assembly in 2017, elaboration and approbation of a network charter, hold thematic workshops at national and regional levels)
  - **Implement and support studies and research under a participative process**, to foster synergies between ALiSEA members and partners
  - **Set up channels for agriculture professionals** to access information about agroecology (Online portal, Facebook pages in different languages, newsletters)
  - **Launch a small grant facility** to boost innovation and capitalization in 2016 and 2017 through case studies documentation, new practices testing, success-stories dissemination.

- **Capitalization Phase and way forwards** (July 2018 to June 2019):
  - Conduct **members consultation process** from July 2018 to January 2019 (online members survey to collect opinion, setting up national task force group meetings to shape the future)
  - Co-organize the **Agroecology Futures Regional Forum (final ACTAE conference)** in November 2018

- **Document knowledge and experience** through Small Grant case studies, Agroecology Futures Book, video productions, animated film to introduce ALiSEA network

Despite many initiatives supporting agro-ecological development and the local actors in the Mekong region, this is **the first innovative attempt to network all of them nationally and regionally, in order to form a strong coalition of stakeholders at different levels** – from farmer organizations up to national and regional research centers, and including the private sector – that is capable of feeding public policies and advocating the stakeholders for stronger support to the wider dissemination of successful alternative agricultural practices. This component **aims at promoting the emergence and setting up the enabling conditions for the creation of a new regional network on agroecology in the Mekong Region**. The objective is to support a unifying and wider concept of agroecology, to be an open and inclusive multi-stakeholders network developing alliances with civil society, farmer's federations, private sectors, research institute, academia and government.

ALiSEA focus its activities on fostering a wide diffusion and understanding of principles of agroecology in the Grand Mekong Sub-region in order to facilitate their operational incorporation in the practices of farmers and companies, and in public policy.

R2.1: A DATA BASE ON AGRO-ECOLOGICAL PRACTICES, EXPERIENCES AND NETWORKS IN THE 4 COUNTRIES IS PUBLICLY AVAILABLE AND REGULARLY UPDATED

Conduct four national studies for mapping agro-ecological practices, experiences and networks (complement the mapping, stakeholders' studies carried out in the feasibility study) October 2015 to January 2016

These studies are part of the inception phase of the ALiSEA component activities and can be considered as a sort of baseline for the ACTAE project. It aims at further mapping agro-ecological initiatives at local and national level with three folded objectives:

- To review the overall agriculture development policy framework
- To scope allies and champions for the promotion of agroecology across the Mekong Region, as well as existing networks
- To feed the national and regional data base that will be hosted by an upcoming Mekong Region Agro Ecology Web portal through the elaboration of factsheets in order to provide broader visibility to each initiative

These four studies allow going in-depth in the analysis by country, to collect quantitative data and include field visit at local level (provinces / districts). They are therefore seen as a continuation of the initial consultation process held during the feasibility study[83]and to provide a more detailed and accurate account of ongoing initiatives promoting agroecology across the region. In this regard, the major issues have been addressed as below:

- A review of the agriculture development policy framework at country level or sub-country level that give attention more especially at

[83] CASTELLA Jean –Christophe, KIBLER Jean- François, Feasibility study of a regional project promoting agroecology in the Great Mekong Sub-Region, Vientiane, Laos, Gret, December 013, 113p and annexes

- A stakeholders mapping
- A network identification: review all existing networks addressing agroecology at local and national level and provide a short account of their current work / achievement as well as their level of activity

An introduction workshop was organized at Vientiane, Lao PDR on 7th and 8th October 2015 by GRET Technical advisers, with the four consultants in order to frame the study on "Agroecology stakeholder mapping and situation review", to ensure similar understanding of the methodology and agroecology concept. The national studies were conducted simultaneously in the four countries. Final reports have been uploaded to ALiSEA website and are available for download through the links giving in Table 3.

Country	Organization	Authors	Report
Cambodia	Independent consultant	Mr. Ly Proyuth	https://ali-sea.org/aliseaonlinelibrary/agroecology-stakeholder-mapping-and-situation-review-in-cambodia/
Myanmar	Consultant of Village Integrated Development Association	Mr. U San Thein	https://ali-sea.org/aliseaonlinelibrary-dashboard/get/file/Agro-ecology-Transition-in-Myanmar-Issues-Status-and-Stakeholder-Mapping.pdf
Laos	Agri-business expert	Ms Pengkhoaune Manivong	https://ali-sea.org/aliseaonlinelibrary-dashboard/get/file/Situation-review-of-agro-ecology-initiatives-stakeholders-and-networks-in-Lao-PDR.pdf
Vietnam	CARES	Mr. Pham Van Hoi	https://ali-sea.org/aliseaonlinelibrary/agroecological-farming-innovations-case-studies-in-hoa-binh-and-lam-dong-province-vietnam/

Table 3: List of the national studies on Agroecology stakeholders mapping (2015)

The key findings of the national studies on Agroecology stakeholder mapping and situation review have been presented during the national ACTAE inception stakeholder workshops jointly organized by GRET and CIRAD. It helped triggering some initial discussions regarding on going initiatives in the field of agroecology in each country of intervention.

Build an attractive and user-friendly website ALiSEA

ALiSEA website is intended to be attractive and user-friendly and seen as a regional web portal / knowledge-sharing platform on agroecology. This website is instrumental for ALiSEA as a regional network since it aims at fostering information and document sharing, enhancing visibility of its members' initiatives, and contributing to a better credibility of agroecology practices towards farmers' federations, consumers and policy makers.

The website has been designed and activated in early January 2016 (http://ali-sea.org/). By the end of the project, the structure of the website includes five sections likely mapping, online library, news & events, small grant facility and LICA. The website has received over

485065 visitors between April 2017 and August 2019 with an average of over 17 000 visitors per month.

This regularly up-dated data base incorporates daily news on agroecology, minutes of workshops and conferences, reports, case studies, evaluation, job vacancies, training opportunities members profile database. This data base is available to the public. It also provides useful links gathered for knowledge-sharing regarding agroecology, bio-diversity and sustainable development in Southeast Asia, such as CANSEA, IPERCA, LaoFAB,.

The creation of the website went along with the graphic design of ALiSEA identity including the logo. It refers to the six agro-ecological practices most commonly find in the Mekong region: organic agriculture, integrated pest management, system of rice intensification, integrated farming, conservation agriculture and agro-forestry (ACTAE feasibility study[84]). Each agroecology practice is represented by one specific icon. It is important to always remain that initiatives may include more than one agro-ecological practice.

Figure 6: Design of ALiSEA network logo

Since January 2018, the website is managed and regularly updated by Mr. Samphanh Lathsakid, in Lao with the support of the national secretariats and coordination ALiSEA team. The ALiSEA team developed one year-support contract with the Fabien Maurice consulting signed on November 2018 in order to ensure the maintenance and updating of the ALiSEA website. In addition, two improvement services have been conducted in June 2018 and May 2019 to improve the database and the structure of the website.

- **Focus on ALiSEA members database:**

To date, the website give access to the profiles of 161 members in order to facilitate networking between members and enhance visibility of the members' initiatives as well as their main areas of expertise. To become a member, organization must send an expression of interest stating that the organization share the vision and values towards an agro-ecological transition and fill up the member profile template. Generally, new members share their profile through the national secretariat after conducting an individual face to face meeting to ensure good understanding of the objectives of ALiSEA network and better know the organization activities, areas of intervention. In addition, the national secretariat informs and shares a short description of the new member by email to the group in the country and announced it on the national ALiSEA Facebook page.

[84] CASTELLA Jean –Christophe, KIBLER Jean- François, Feasibility study of a regional project promoting agroecology in the Great Mekong Sub-Region, Vientiane, Laos, Gret, December 013, 113p and annexes

The Figure 7 shows the trends of ALiSEA members from 2016 until 2019. Within four-year project implementation, **the number of members has significantly increased with around +30% to 40% per year.** It appears that the highest increase is between 2017 and 2018. This can be explained by the recruitment of the national secretariat in each country. They have actively contributed to promote and extend the network.

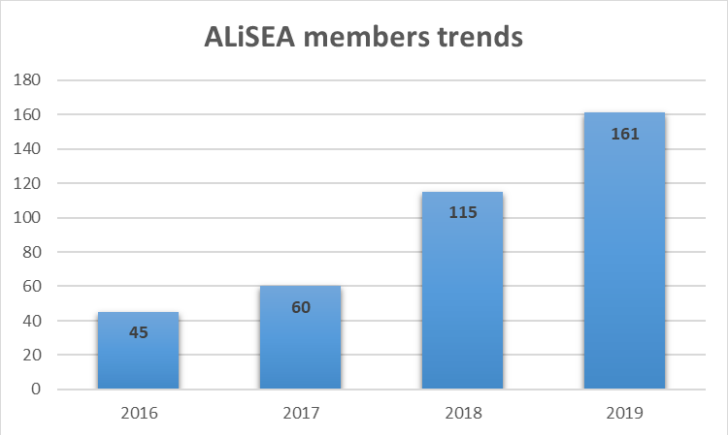


Figure 7: ALiSEA members trends from 2016 to 2019

In addition, we can illustrate the number of members by country (Figure 8). We can notice that members of ALiSEA are not only present in Cambodia, Laos, Myanmar and Vietnam; but organizations from Thailand and China have also expressed their interest to become member even though the level of activities is low. Laos (62) and Cambodia (54) represent the highest number of members, followed by Vietnam (39) and Myanmar (23). It is important to note that the balance of members between countries is very different.

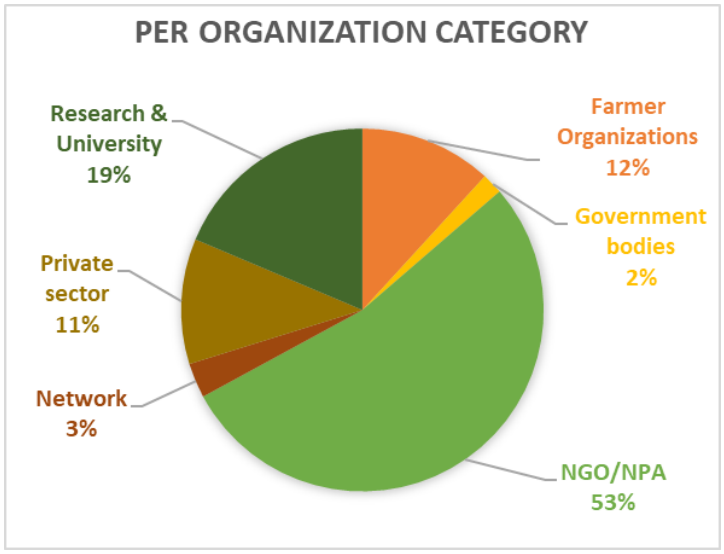
For instance, Laos and Cambodia have a majority of NGOs with around 60% of the total of their members. Whereas in Vietnam the diversity of members is more balanced with NGOs, government bodies and research institutes.

Figure 8: Mapping of ALiSEA members per country (June, 2019)

However, farmer's organizations remain low with only 2% of the members. In Myanmar, there is also a predominance of NGOs with 65% of the members. Farmer organizations and government bodies are not members of ALiSEA.

ALiSEA aims to be an open coalition of stakeholders' active on agroecology within the Greater Mekong Sub-region. It attempts to network stakeholders from farmer organizations up to national and regional level.. Thus, the alliance upholds and values the diversity of agro-ecological practices, approaches and transition paces of its members. One key challenge is to ensure the diversity, inclusiveness and representativeness of the variety of stakeholders.

The Figure 9 shows the 161 members of the alliance per organization category. In general, NGOs form over 50% of the alliance. Others organization categories are more balanced between 10 to 20% of research institute, farmer's organizations and private sector. The government bodies remain the lowest number of members. It seems important to adapt the communication strategy to target audience in order to engage with all organization categories.



NGO/NPA	**86**
Research & University	30
Farmer Organizations	19
Private sector	18
Network	5
Government bodies	3

Figure 9: ALiSEA members per organization category (June, 2019)

- **Focus on the online library:**

The online library of the website aims at collecting and organizing the existing knowledge on agroecology with a specific focus on the Mekong countries. The objectives are to facilitate data sharing and access to knowledge by gathering documents in one place, to promote and give visibility to local and national knowledge as well as field-evidence data which are not available on internet because it counts knowledge from farmer's organizations, civil society, academia, private sector, research center and government. In this regard, the online library increases the visibility of ALiSEA members work and initiatives.

The nature of the documents uploaded on the online library are minutes of meetings, workshop and conference proceedings, reports, case studies, publications, evaluation,. Most of the documents are in English. To date, the online library counts over 900 resources ranging by three sections (i) Agroecology Schools, (ii) Countries and (iii) Document type to facilitate access to information. It facilitates the exchange of information and experience among members of the network. It increases the visibility of “agro-ecology” initiatives and practices, thus contributing to scaling up their adoption and consideration by farmers, consumers and policy makers.

- **Focus on the interactive map:**

The mapping tool is part of a broader knowledge management and production strategy of ALiSEA network. It is an interactive tool with open database information based on systematic search for entries based on clear criteria. The classification relied on the six (6) most common agroecology practices in Southeast Asia. The mapping tool started from the in-depth stakeholders mapping assessment in the four (4) countries. At this time, there was no comprehensive database and initiatives were isolated; therefore, it was difficult to demonstrate and convince about ongoing successful initiatives. The main objectives of the ALiSEA mapping initiative are: (i) to document experience and agroecology practices with a geographical focus on Cambodia, Myanmar, Laos, Vietnam and Thailand; (ii) to showcase successful farmers stories in the transition towards agroecology as change makers; and (iii) to assess agro-ecological practices at farm level.

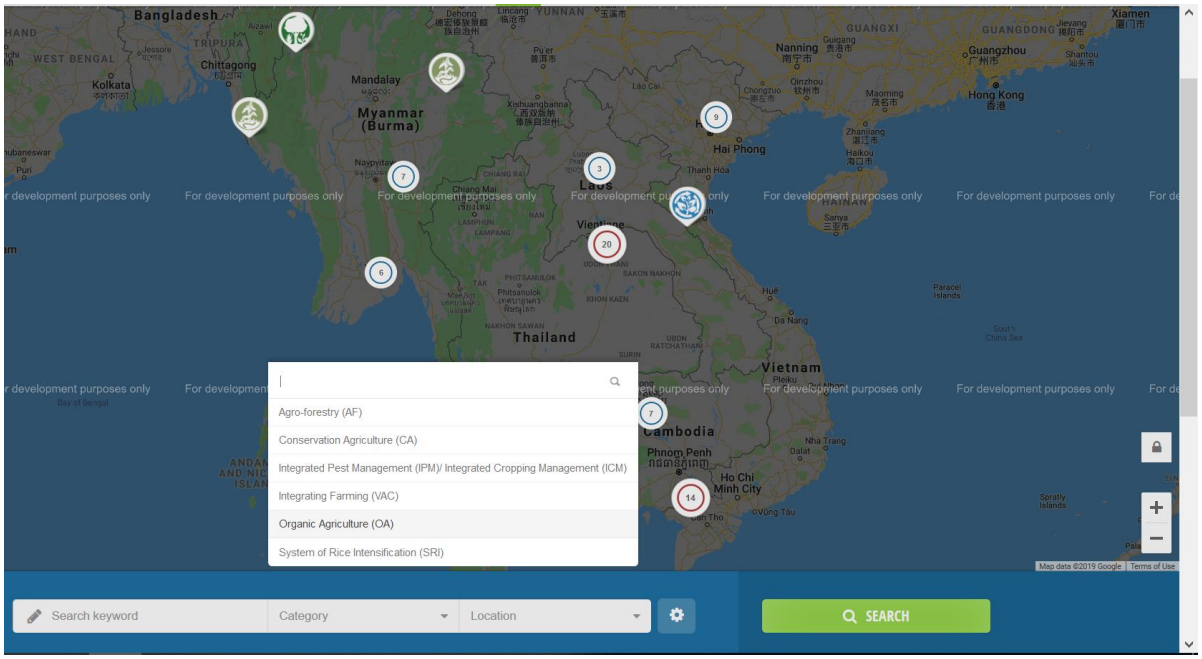


Figure 10: Mapping agro-ecological case studies in the Mekong region

The ALiSEA mapping initiative focuses on outstanding agro-ecological farms, small grant initiatives and training center on agroecology. The main target audiences are ALiSEA members, farmer's organizations, civil society, development practitioners, students, people who engage with agroecology and farmers. The map counts 72 case studies across five countries including Thailand which are classified by the six agroecology schools and location. A mapping tool requires a lot of time for collecting, analysing and classifying the documents and case studies. This mapping tool should be improved to ensure that we reach our target audience, and measure the impact. In addition, the alliance should collectively decision what information should be shared or not. It needs to improve the system, to clarify the process and the objectives.

- **Focus on communication tools:**

In 2017, the **GRET operational team has developed a communication, knowledge and networking manual.** It has three main objectives: (i) Guidance for all the ALiSEA team members (National and Regional Coordinators & focal points of National Secretariats), (ii) Scaling up knowledge generation at country level and feeding of the ALiSEA website / Facebook pages and (iii) Development of stronger ownership of communication tools at country level.

This manual aims at ensuring coherence and homogeneity between the different Facebook pages but also to enable cross posting of information, it is important to follow few similar principles. It provides recommendations to promote and increase outreach. It clarifies the common guidance principle to manage and feed the website. ALiSEA functions as a platform to share and discuss real issues encountered at multiple levels, from grassroot level actors to policy makers and influence on policy dialogue. ALiSEA has created several communication instruments to reach agroecology stakeholders such as:

- **Five Facebook pages with a total of 30,792 followers**: Lao (1,713 followers), Khmer (22,227 followers), Vietnamese (921 followers) and Burmese (2,132 followers). These pages aim at engaging more in national language and broaden the audience, reaching out to farmers for instance since FB is one of the main sources of information in many of the Mekong Countries. By August 2019, the ALiSEA Facebook community page in English has 3799 followers (https://www.facebook.com/AgroecologyLearningAlliance/)
- **One ALiSEA Mekong YouTube channel with 112 videos**
- **Twelve quarterly newsletters** developed and sent to 1,843 subscribers since 2016 with an average 30% to 40% opening
- **Two leaflets to introduce ALiSEA network** in English but also in national languages (Burmese, Khmer and Lao)
- **One poster** to presents briefly the objectives and the scope of each communication tool, to encourage organization to make use of them and broadly its experiences across the Mekong region: **How to make ALiSEA works for your organization?** (https://ali-sea.org/how-to-make-alisea-works-for-your-organization/)

In order to promote ALiSEA a **short-animated video** has been produced in 2018 highlighting the main challenges across the Mekong Region, diversity of stakeholders and initiatives promoting agroecology, the need of networking and explain the emergence of the network.

The film introduces the different operating modalities of the network and provides examples of what has been achieved so far. It exists in English and has been translated into five (5) national languages: Burmese, Laos, Khmer, Vietnamese and Thai languages.

It can be seen here: https://www.youtube.com/watch?v=Z0y9SLKcMhg

ALiSEA regional network in figures in 2019

- ALiSEA website is available since January 2016 (https://ali-sea.org/)
- **485,065 website visitors** between April 2017 until August 2019
- **161 members** from six (6) organization categories and six (6) countries
- **911 resources available** on online library (https://ali-sea.org/online-library/)
- **1843 subscribers** to the quarterly newsletter
- **72 case studies** available on the mapping tool (https://ali-sea.org/mapping/)
- **One short-animated video** to introduce and promote ALiSEA
- **112 videos** hosted by the ALiSEA YouTube channel (www.youtube.com/ALISEAMekong)

R2.2: AGRO-ECOLOGICAL PRACTICES AND EXPERIENCES ARE EVALUATED AND DOCUMENTED (CASE STUDIES), AND THE CONDITIONS FOR SCALING-UP THEIR ADOPTION BY SMALL HOLDER FARMERS ARE CHARACTERIZED

The documentation and evaluation of agro-ecological practices involve both scientists and development practitioners. The results have been incorporated into the data base. They point out issues to be further worked out for improving adoption and impact. They contribute to analyse the conditions required for scaling-up.

Organize joined evaluation of agro-ecological practices and experiences with analysis of the conditions for scaling-up

- **Thematic workshop on what performance indicators for assessing agroecology impacts in Lao PDR (November, 2016)**

During the inception workshop about agroecology transition, organized in Vientiane in June 2016 by ACTAE project, it was expressed a common interest from research and civil society organizations to address the issue of performance indicators when assessing agroecology impacts. Following up on this expression of interest, a dedicated thematic workshop has been organized on this issue on 29th of November in Vientiane.

It fosters multi-stakeholder collaborations in regards to promoting an agro-ecological transition. It provides an opportunity for initiating co-evaluations of agro-ecological practices and experiences, with the objective to identify, document and compare parameters, expected results and condition of success for diverse agro-ecological cropping systems. This research

has involved development practioners and academia such DAFO and PAFO staff, SAEDA & CCL, students, CIRAD, Helvetas, representatives of the National University of Laos and NAFRI.

The workshop has offered room for a lot of experience sharing from Laos. It has enabled to start brainstorming about some revised indicators and to identify ways to start testing them in the field. It brought together 30 participants from research and universities (about 60%) and national and international NGOs / CSOs' (about 40 %) actively working on sustainable agriculture sector in Laos.

A short summary of the workshop, including all the presentations, can be found here on ALiSEA website http://ali-sea.org/alisea-national-thematic-workshop-what-performance-indicators-for-assessingagroecology-impacts-vientiane-lao-pdr-november-2016/

- **Research on Participatory Guarantee System on bamboo in Houaphan Province, Lao PDR (from February to July 2017)**

In the framework of a support provided by an intern from Science Po Bordeaux, Ms. Claire Georges, to ALiSEA for following up the Small Grant Facility, a research ACTAE work has been carried out about the PGS approach, with a specific focus on the PGS bamboo, implemented by GRET in Houaphan Province (Cambodia).

As mentioned below, an article has been submitted and published to the regional bi annual conference of ECHO Asia in Chiang Mai, in October 2017. Supporting the implementation of Participatory Guarantee Systems (PGS) groups requires facilitators to adopt innovative bottom-up approaches since the core principles of PGS bring back producers to the center of the decision-making process. This article aims to illustrate how to manage a bottom-up approach of PGS facilitation in a rather centralized and top-down context. It builds upon a study taking place in the framework of the Agroecology Learning Alliance in Southeast Asia. The results and analysis demonstrate that Laos' particularity, compared to other South-east Asian countries, is the pro-active position of its government towards PGS promotion. This formal recognition of PGS as a tool for organic certification goes along with the production of national guidelines and governmental control over the certification process. The PGS group in Huaphanh manages to open spaces for discussion with the authorities, while following the national guidelines and organic standards in order to be certified.

Consequently, one could anticipate that the leeway for adaptation to the producers' constraints and needs is potentially limited by existing guidelines, but on the other hand, such guidelines can be seen as well as a useful and interesting starting point. The PGS pilot in Huaphanh has to be seen as a continuous effort to adapt itself to the local and national political context while aiming to comply with the different requirements as identified by IFOAM. Development practitioners, producers, and government need to collaborate and contribute to the collective learning process. This dialogue, as well as the lessons learned from neighbouring countries, allows for a progressive convergence between the different stakeholders towards a more inclusive approach, notably including the private sector

- **Publications**

Two articles have been written and submitted to the regional bi annual conference of ECHO Asia in Chiang Mai, in October 2017. They both have been published in November 2017 and are available for download on ALiSEA website:

- M Bourjac, P Ferrand, JC Castella, 2017, Sustainable Intensification of Rain Fed Lowland Rice Systems: A case study in Xieng Khouang province in Lao PDR, ALiSEA, Vientiane
- C. Georges, P. Ferrand, 2017, Enabling bottom-up approaches in top-down environment: Case study on Participatory Guarantee System (PGS) facilitation in Huaphanh Province, Lao PDR, ALiSEA, Vientiane

https://ali-sea.org/aliseaonlinelibrary-dashboard/get/file/Conference-Proceedings-The-6th-Biennial-ECHO-Asia-Agriculture-and-Community-Development-Conference.pdf

One book "Agroecology Futures". It results from the compilation of different case studies from the ALiSEA Small Grant Facility and other research work carried out since 2015. ALiSEA funded 26 initiatives to support agroecology activities in the Mekong region, which were translated into several knowledge products. These later were reviewed and harmonized to produce this capitalization book. The small grants were implemented by a broad diversity of stakeholders and participated to change the agriculture sector at different levels, from production unit to policy level (Annex 2). These stories are considered as first hand and precious illustrations from the field, which could inspire others to act for a transition toward agroecology in the Mekong region. The publication can be found here: https://ali-sea.org/new-publication-agroecology-futures-inspiring-and-innovating-stories-from-the-agroecology-learning-alliance-in-south-east-asia/

- **Assessing agro-ecological performances in the Mekong Region: from the concept to case studies (February 2018 - June 2019)**

Following the work started on the performance indicators during the thematic workshop in November 2018 in Laos PDR and the support to organic farms led by young farmers, a new pilot research was launched in February 2018. **It aimed at developing a user-friendly tool to assess agro-ecological, social and economic performance of innovative farms that are led by young farmers in the Mekong region.** The focus is on sustainability objectives specific to agro-ecological farming systems. No single existing framework could be used per se, therefore ALiSEA team decided to design its own practical tool based on an existing method (IDEA) but adapted to fit the region requirements. IDEA is a method specifically adapted to the European context. Therefore, ALiSEA Sustainability Assessment had to be simplified and modified for two main reasons:

- To provide references and an interpretation of the results suitable to the local context
- To enable users who are not familiar with assessment tools to get a clear understanding of the tool and be able to use it without heavy training

This assessment consist in identifying potential areas where these farmers could be supported, be it technical support or else. Even though this agro-ecological performance assessment is based on widely tested and reliable indicators, it relies partly on a subjective appreciation of the farm context and gives the farmer the opportunity to express his/her own opinion about his/her farm. In order to reach the final objective, the pilot covered the following actions:

- Define a range of reliable, easy-to-understand indicators applicable to the Mekong Region
- Measure agro-ecological, social, ecological and economic parameters through the design of a dedicated and user-friendly assessment tool
- Assess the performance level of different type of agro-ecological farming systems in the four-targeted countries (Cambodia, Laos, Myanmar, and Vietnam)
- Compile the most successful and innovative case studies, aiming at inspiring and convincing not only the active members within the network but also conventional farmers, policy makers and consumers about the impact of such farming practices
- Explore the possibility to build successful farmers network across the Region to spread the knowledge and encourage initiatives

Using a harmonized approach contributes to making sustainable farms more measurable, verifiable and visible. ALiSEA Sustainability Assessment results will be used for learning and communication purposes. Through this assessment the objective is to communicate on farming innovation, support the implementation of innovation networks, exchanges across farmers from different south east Asian countries. Assessments were carried out by ALiSEA team in collaboration with Y-Farm network in Vietnam and KDF in Myanmar building upon the work already carried out by these organizations to support young organic farmers and to strengthen the network of innovative farms across the region.

In 2019, ALiSEA team has kept practicing the sustainability assessment in order to increase the number of case studies in the four countries. In Cambodia, a two-day training session has been organized in March 2019 gathering fifteen (15) participants from ten (10) organizations. It included theoretical session on the first day, where participants learned about how to use the tool and collect data for the analysis, and the field exercise on the second day for the real interview practice with farmers. In the afternoon of the second day, participants were required to clean, analyse and present the case study of their assessments to other participants. After the presentation, the participants were asked to write a case study following the format provided.

In total, twenty-nine (29) farms assessment cases studies have been developed by ALiSEA team and interested members. We can find in the Figure 11 an example of summary graph produced from one organic farm assessment.

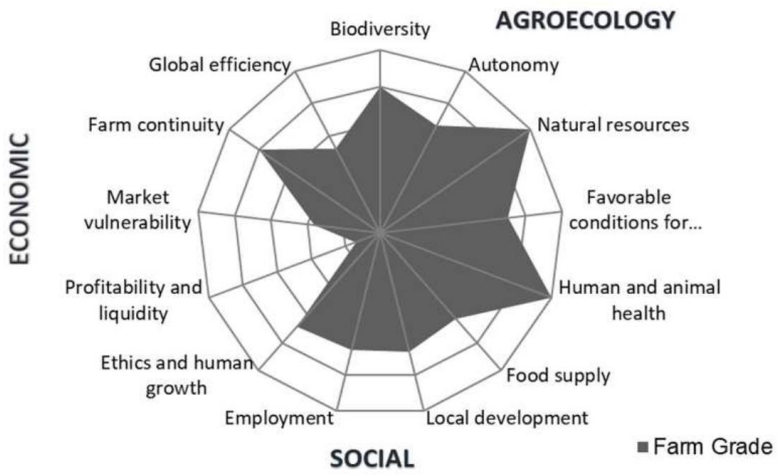


Figure 11: Sustainability Assessment Graph of one organic farm in Laos

Whenever it was possible, short video testimonies of young farmers were also produced. Some of the preliminary study finding were presented during the MELA workshop that was held in Thailand in August 2018, final findings were presented during the UNICAM Conference on Sustainable Agriculture in Cambodia current knowledge applications and future needs organized by the University of Cambodia in August 2018 as well as during the Towards Organic Asia Partner meeting organized in Vientiane, Laos in December 2018. Research findings and the case studies of the farms assessed can be found here: https://ali-sea.org/another-way-of-farming-is-possible-focus-on-some-innovative-young-organic-farmers-in-the-mekong-region/

In the framework of the FAO Strategic Programme 2 “Making agriculture, forestry and fisheries more productive and sustainable”, ALiSEA coordination team has been invited to participate to FAO multi-stakeholder workshop from 8 to 9 October 2018 at FAO Headquarters in Rome. The workshop aims to build on the 2nd International Symposium on Agroecology held in April 2018, guidance received from FAO’s governing bodies and on the experience in developing SDG indicator 2.4.1 to measure sustainability of agriculture systems at the country level.

The workshop intends to contribute to the development of tools to support evidence-based decision-making on agroecology. The specific objectives of the workshop were: (i) to establish a technical expert group with leading thinkers and key partners, and coordinate efforts to build the evidence base on agroecology; (ii) to discuss key methodological challenges in building the evidence base on agroecology and develop a joint understanding and response; and finally (iii) to agree on elements of a draft analytical framework to assess the multi-dimensional performance of agroecology, including criteria/indicators to describe agro-ecological systems/transitions and performance indicators. ALiSEA has been identified as a relevant network to involve in testing the analytical framework and collecting data for the Mekong sub-region context.

Support scientific research to document conditions of success for agro-ecological cropping system

- **Consumer preference study regarding agro-ecological products in Myanmar & Vietnam**

A study on the consumer preference regarding agro-ecological products focusing on Vietnam and Myanmar has been elaborated by GRET, CIRAD and the National University of Laos. The study was implemented between May 2017 and March 2018 with the financial support of ADB. Such research is seen as highly complementary to the work carried out by GRET and CIRAD since it will provide first-hand information regarding market outlets for agro-ecological products and consumer behaviours / expectations. The general objective was to understand the current knowledge, perceptions, attitudes and behaviours of consumers towards organic/clean/safe food in Myanmar and Vietnam and to contribute to a general understanding across the Greater Mekong Sub-region.

The main results can be summarized as follow: Consumer concerns over food quality, safety and healthiness are growing together with urbanization, rising living standards and environmental issues. Food consumption patterns are changing in the Greater Sub-region with the competition brought by modern retail and recurrent episodes of food related scandals. Consumer's awareness regarding food safety is variable between countries and within countries. But overall consumers concern over food safety is high. It is possible to answer consumer's expectations and build a market for Safe and Environmental-friendly Agro-based products. It is already established in Vietnam among urban consumers but there is a lack of availability of these products in particular organic which is a key constraint with then awareness and price. The study concluded by providing the following recommendations: (i) there is a need to strengthen consumer education & engagement (communication, consumer associations), (ii) to harmonize standard labelling and quality assurance schemes to ensure consistency and improve recognition at national and ASEAN levels, (iii) to support a variety of retail segments and approaches to accommodate the diversity of consumer behaviors and preferences, (iv) to set up a regional learning and R&D alliance to design and mainstream agricultural and trade innovations.

The key findings of the study were presented during the Greening Agri-food Systems, Ensuring Rural Sustainability and Promoting Healthy Socioeconomic Transformation in Southeast Asia organized by Chulalongkorn University in Bangkok in January 2018, and the Agroecology Futures Regional Forum in Siem Reap, in November 2018.

- **Mapping use of pesticides and fertilizers research study in Vietnam (January 2017 - February 2019)**

CIAT launch a regional research project co-funded by ALiSEA that aims at mapping use of pesticides and fertilizers. This pilot research initiative has been implemented during the monsoon cropping season, addressing maize in Lai Chau (North Vietnam) and rice in An

Giang (South Vietnam). It involves CIAT, RT Analytics, ALiSEA national secretariat and two ALiSEA national members: CISDOMA (North) and RCRD from An Giang University (South). The study had two components:

- One focusing on a limited number of farmers (about 20-30) in each site in order to test the full module of the mobile application designed by RT Analytics. Its objective is to record as much cropping practices information as possible in order to support farmers in their decision making and practice analysis but also ultimately to be able to guarantee traceability of the products.
- One focusing on a larger sample of farmers (about 70 farmers) in each site to record agrochemical use in Maize (Lai Chau) and Rice (An Giang).

The main objective of this exploratory research initiative was to get an appreciation of use patterns and farmer perceptions to chemical use in key agricultural crops, in return to provision of a "knowledge product" (that will combine good agricultural practice and climate forecast based agricultural advisory), all through a crowdsourcing module. In terms of outputsof this pilot study, the following maps for each location have been aggregated and reported in the presentation of CIAT[85]: fertilizer and pesticides type and volume aggregated to the season as well as topological base maps to highlight the potential impact the usage can have.

As a conclusion, farmers in An Giang province faced difficulties in using the smartphone application, mainly because they don't have the habit to use this kind of equipment and the internet network connection is too low. In addition, the level of chemical inputs is very high and the pressure of the chemicals inputs sellers strong. In Lai Chau, CISDOMA want to continue further the study by conducting deeper analysis on the perception and use of herbicide and pesticides at the beginning and at the end of project cycle. This information could be used to assess the change in the practices of farmers after project interventions. Besides, results of analysis on the contamination caused by inappropriate use of herbicides/pesticides (or further pathogen contamination in water) could be used in CISDOMA awareness raising activities with the farmers and policy makers.

The final report with processed data is available. A restitution workshop has been organized on February 27th, 2019 in Lai Chau Province to share the findings and gather inputs from the stakeholders including farmers and local authorities. All presentations of the final restitution workshop are available for download here: https://ali-sea.org/workshop-on-applying-pesticide-and-chemical-fertilizer-use-in-lai-chau-province-vietnam/

- **Agriculture Communication media study in Cambodia (July 2018 - March 2019)**

The agriculture communication media study was a collective work of twelve (12) ALiSEA members in Cambodia which the majority of the participants were NGOs. The participated NGOs include Louvain Cooperation, Ockenden, Eclosio, Agrisud International, Natural Agricultural Village, Ecoland, MIPAD, Mlup Baitong, International Volunteers of Yamagata, FAEC, IRRI and Gret.

[85] Narrative report from CISDOMA and CIAT: Supporting the implementation of a research initiative on quantifying and mapping agro-chemical use in Vietnam, June 2019

The purpose of this agriculture communication media study is to assess the role and impact of media channels in the dissemination of agriculture information and knowledge among farmers in Cambodia. The objectives of the study are to better known media channel habits among farmers as a source of information on agriculture and to identify the most popular media channels used by farmers to access information.

Each organization undertook 30 sample interviews to collect qualitative data with 15 of their beneficiaries (Bs) and 15 of non-beneficiaries (NBs) which make up the total number of the survey to be 360 samples. However, after the data cleaning process, only 354 responses were valid for the data analysis. The study was conducted in 10 provinces in the low land and the upland areas. The study targets small-scale farmers with the agriculture production areas of four (4) hectares or less, and considers all type of agricultural production. In addition to individual interviews, five (5) focus group discussions were conducted by Louvain cooperation, IRRI and GRET in three provinces to collect qualitative data.

A restitution workshop was organized on February 14th, 2019 at GRET office in Phnom Penh to present and share the key findings to the twelve (12) organizations as well as to collect their comments and suggestions. At the end of the meeting, it was agreed that ALiSEA team will developed three materials to share publicly with their members related to the research which included the full report, an infographic of the research and the two-page research summary.

As main key findings, among all 354 respondents, 78.5 % were reported to have a TV at household level. Simultaneously, 49% and 39% of all samples interviewed possessed a smartphone and a radio. A very low number of respondents were reported to have a tablet or a computer at residential level. Since most respondents own a TV, the number of days accessing to TV programs ranks the highest among all 5 electronic media devices. In average, the respondents spend 4.3 days a week accessing media on TV, while they devote 1.9, 1.7 and 1.4 days on media on Facebook, radio programs, and videos on YouTube.

The summary table below shows the main electronic media devises used by farmers according to their group ages when they are looking for information on agriculture. We can observe that there is still a very high interest in watching TV which concerns all the five age groups mainly because it is seen as an easy and free device to access to information. Surprisingly, radio concerns only the older group. It is not widely used by farmers as most of organizations thought. Social media are used by two categories of farmers 20/30 and 30/40 years old.

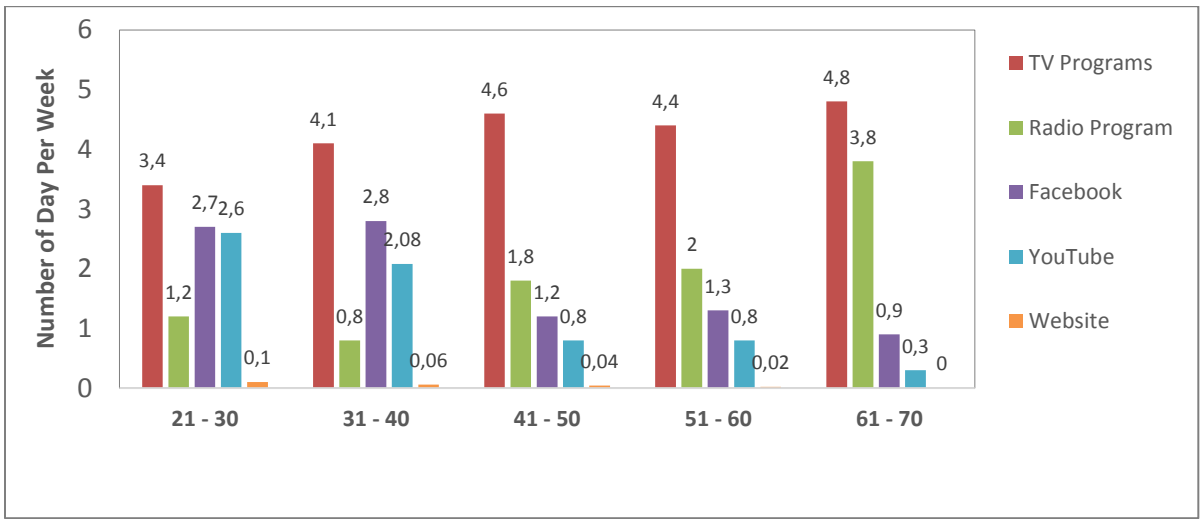


Figure 12: Frequency of media used by farmers depending on their age

However, the study also points out two main barriers facing by farmers today on accessing to agricultural information using social media: (i) difficulties on how to write key words and to search on Facebook, YouTube or internet; and (ii) limited access to social media due to budget constraints, as it is linked to their phone credit costs.

Age Range	Radio		TV		Facebook	
	Yes	No	Yes	No	Yes	No
21 – 30	20%	80%	32%	68%	**40%**	60%
31 – 40	10%	90%	**39%**	61%	**44%**	56%
41 – 50	**38%**	68%	**47%**	53%	18%	82%
51 – 60	20%	80%	**40%**	60%	20%	80%
61 – 70	34%	66%	**53%**	47%	14%	86%

Table 4: Most common media used by farmers depending on their age

It seems that farmers still strongly rely on informal education as a way to receive clear and practical agriculture information/techniques. They also dominantly prefer TV programs as a main source to receive agriculture information. They aim at helping organization to better understand how farmers access information and therefore better tailor their approach for circulating information and knowledge to and from farmers. The final report and infographic poster are available for download on ALiSEA website: https://ali-sea.org/aliseaonlinelibrary/communication-media-study-in-cambodia/

R2.3: A WIDER CONCEPT OF "AGRO-ECOLOGICAL TRANSITION" IS SHARED BY A WIDE RANGE OF AGRO-ECOLOGICAL ACTORS, AND STARTS BEING RECOGNIZED BY SMALL HOLDERS FARMERS, CONSUMERS AND POLICY MAKERS

Within ACTAE project, agroecology is seen as a unifying concept of a wide "agroecology movement", to which several agricultural practices are contributing, representing a high social capital in terms of scientific knowledge, experience and knowledge. Agroecology approaches are seen as convincing and evidence-based alternatives to the current agri-food system. They clearly aim at strengthening innovation capacity of family farms, as well as the recognition of their contribution to food sovereignty in the region. The recognition of a wider concept of "agro-ecological transition" will help gaining visibility and support from the civil society, consumers, donors and policy makers.

ALiSEA coordination team has promoted a broad definition of agroecology defined by key historical principles[86]. Furthermore, the ACTAE feasibility study carried out in 2013 identified several agro-ecological schools[87] which fit with the principles of agroecology and seen as the most common practices find in Southeast Asia. This set of practices was not exhaustive and was considered as a starting point for further discussions to engage with stakeholders.

During the ACTAE project implementation, the formulation and the scope of the concept has been discussed several times during workshops with a wide diversity of stakeholders in the different countries. The inception national workshops were a first step in the process to define a collective statement on agroecology and contributed to translate it into national language. In addition, the elaboration of the ALiSEA Network charter[88] helped to go further in the collective definition of agroecology concept. National and regional events (thematic workshops, consultation meetings, film contest etc.) were also key factors to support the formulation of a shared understanding of agro-ecological concept.

Beyond agroecology practices, the economic (e.g. value chains, quality standards) and policy dimensions (e.g. food security, climate change) of the agroecology transition are well recognized by stakeholders. At the end of the ACTAE project, it seems that most stakeholders share an interest to go beyond a strict conception of the six "agroecology schools". They confirmed an interest for more than one agro-ecological schools even though organic farming remains the most popular. It should be noted that members are interested to learn about agro-ecological practices seen as innovative practices but also value the comprehensive approach of agro-ecological transition from the field to the market. Progress has been made in defining agroecology but there is still a need to pursue discussions. Building a consensus about agroecology remains a key challenge as it is a polysemic concept and as ALiSEA intend to engage with a wide diversity of stakeholders in a multilingual context.

[86] Altieri 2005, Gliessman 1998, Francis 2003, Wezel et *al.* 2009, by Stassart et *al.* 2012

[87] Agroforestry, System of rice intensification, organic agriculture, VAC/Permaculture, Conservation agriculture, Integrated Farming/IPM

[88] https://ali-sea.org/wp-content/uploads/ALiSEA-General-Assembly-Charter-21march2017-VF1.pptx

Organize national multi-stakeholders' workshops

Four National Inception Workshops

As part of the inception phase of ACTAE project, CIRAD and GRET have jointly organized national multi-stakeholder workshops addressing Agro-ecological Transition in the Mekong Region in each of the four countries aiming at sharing knowledge, information and actions between agricultural development stakeholders. The workshops' objectives were: (i) to officially launch the ACTAE program and present the two complementary networks that it supports: CANSEA & ALiSEA, (ii) to build and envision a broad coalition of stakeholders involved in the promotion of agroecology, (iii) to share information, knowledge and experience, (iv) to identify national critical issues to be addressed for supporting agroecology, and finally (v) to draft a collective action plan for 2016 supporting agro-ecological transition in each country.

Country	Date	Participants	Report
Myanmar	7th & 8th March 2016	48	https://ali-sea.org/1st-national-multi-stakeholder-workshop-addressing-agroecological-transition-in-myanmar/
Cambodia	30th & 31st March 2016	66	https://ali-sea.org/1st-national-multi-stakeholder-workshop-addressing-agroecological-transition-in-cambodia/
Vietnam	5th & 6th May 2016	49	https://ali-sea.org/1st-national-multi-stakeholder-workshop-addressing-agroecological-transition-in-vietnam/
Laos	2nd & 3rd June 2016	62	https://ali-sea.org/1st-national-multi-stakeholder-workshop-addressing-agroecological-transition-in-laos/
Total participants		**225**	

Table 5: Number of participants to the national inception workshops in 2016

Invited participants were key stakeholders that are involved in the field of agroecology. They comprised farmer associations, NPAs / LNGOs, INGOs, private sector representatives, government officials, research center, scholars and development partners that have been working on sustainable agriculture sector in each country. A broad diversity of stakeholders has attended the national inception workshop as can be seen from the graph below.

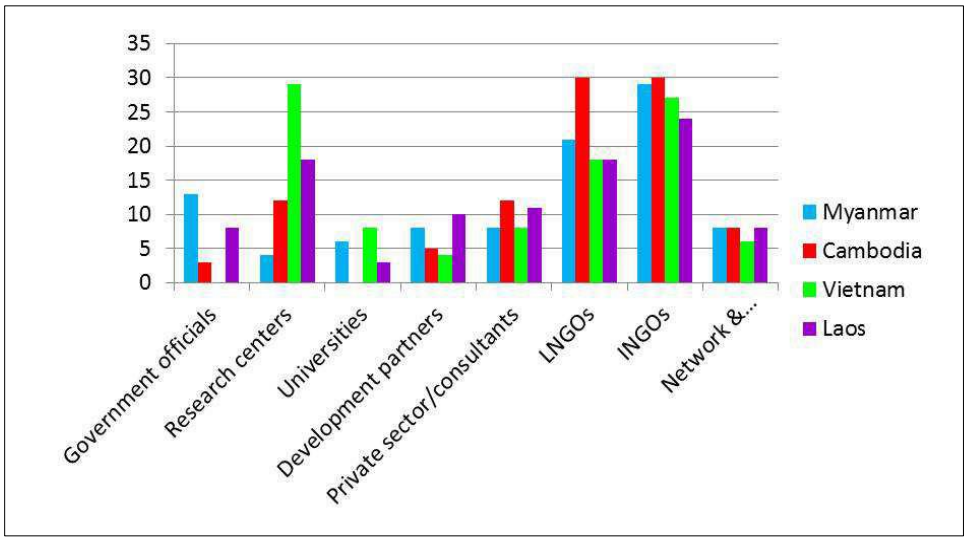


Figure 13: Participation to ACTAE National Inception Workshop in 2016

As far as the concept of agroecology is concerned, several definitions were provided during each workshop highlighting a need for further collective work on elaborating a shared and inclusive definition. It was mentioned for instance that in Vietnam, there is often confusion between Agroecology and Ecological Agriculture. In addition, many words exist (safe or clean agriculture, organic agriculture, agroecology, climate smart agriculture...) so it is needed to clarify and identify a way to define AE that would be understood by everyone. In this regards, it was mentioned that it is needed to translate the concept of AE into words that would be understood by everyone, from farmers to consumers including policy makers. It is necessary to develop locally appropriate terms, taking into consideration each country agriculture culture and history.

All participants seem to have gained a fair overall understanding of the underlying principle of such concept. Thus, most participants agreed that key agro-ecological principles were in line with the follow concepts: (i) Sustainable resource management (ii) Environment protection (iii) Ensured food security and food safety (iv) Social equity. In addition, participants agreed that definition of agroecology should also encompass two extra dimensions: (i) The 'Respect for the mother of earth' and (ii) The fact that agroecology is not 'new' concepts; that it is relying on empirical learning processes and knowledge transfer from generation to generation (and combined with scientific research for a better understanding and use of ecological processes operating in the farming systems).

Those four-inception workshops were crucial in the emergence process of a vibrant and member driven agroecology network across the Mekong region. It also contributed to take collective decisions on national priority issues and way to move forwards. Consolidated report of the four national multi-stakeholder workshops on agro-ecological transition in the Mekong Region is available here https://ali-sea.org/aliseaonlinelibrary/consolidated-account-of-the-4-national-multi-stakeholder-workshops-on-agroecological-transition-in-the-mekong-region/

- **Consultation Workshop with Farmers organizations representatives in Cambodia, October 2016**

This workshop was organized in Phnom Penh on the 26th of October as part of ALiSEA objective to support the emergence and promote a shared vision about Agroecology. It involved thirteen farmers, representatives of eight (8) different Farmer Organizations (FOs). FO here refers to farmer association, federation or network. The objectives of the workshop were:

- **To better understand the functioning of each Farmer Organization** (mandate, agricultural models promoted, difficulties/challenges faced by their members, how these challenges/constraints have been addressed, and dissemination of information by FO to their members);
- **To assess the understanding of FO of the Agroecology concept** and facilitate the co-development of a clear definition of the agroecology in Khmer, which can be easily understood by farmers;
- **To present ALiSEA and discuss the potential collaboration**, especially on how to mainstream agroecology at farmer level;
- **To identify potential outstanding sites** (farms) that could relate to AE concept and would be worth documented (for sharing experience amongst FO members).

FOs have different levels of understanding agroecology concept. FNN and FAEC are more advanced and are familiar with the term Agroecology translated into Khmer “Kset Pak Ri Than”. For other FOs, it is their first time to hear the term “Kset Pak Ri Than” but they are familiar with the principles of agroecology. The practices linked to agroecology are referred to as “Kak Si Kaim Thoma Cheat = Ecological agriculture/farming”. Among the six schools of agroecology (SRI, IPM, CA, Organic Agriculture, Integrated Farming, and Agroforestry), Integrated Farming and Organic Agriculture are the schools which were explicitly mentioned and discussed among FOs. They also discussed some principles/practices of IPM e.g. use of bio-pesticide and mechanical measures to control pest, but they do not directly mention the term IPM. By combining all propositions of FOs, it can be defined as such: Agroecology is an integrated farming system, using locally available resources, complementing each other in a sustainable way. It is a farming system respecting the environment, producing healthy food, reducing cost of production whereby increasing farmers’ income. This farming system contributes to mitigating climate change and reducing migration.

The workshop went through a very interactive/participative process. FOs leaders were very dynamics and actively involved in the activities and discussion. Most of FOs have mandate of supporting members in market access and access to credit. FNN, FAEC and KSPA strongly promotes agroecology to their members. FOs have different levels of understanding agroecology concept. FNN and FAEC have more advanced understanding of the agroecology concept compared to other FOs. FWN, Angkor FWUC and Polder User Community of Prey Nup do not provide technical advices in terms of agricultural production to the members.

Report on the reflection workshop with Cambodian Farmers Representatives on Agroecology is available. Key presentation of the workshop is available for download here

https://ali-sea.org/consultation-workshop-with-farmers-organizations-representatives-in-cambodia-october-2016/

Organize regional multi-stakeholder workshops

- **Towards a regional initiative to develop E-Learning resources in Agroecology, Cambodia, October 2017**

Based on on-going activities in the field of training and higher education implemented by a range of partners within ACTAE project and beyond a regional workshop was organized in Phnom Penh on October 11th, 2017 bringing together different partners involved in training, awareness raising and higher education. This workshop was organized on the continuity of a 1st event organized by ALISEA in Vientiane in June 2017.

A diversity of participants attended the event with representatives from several universities in the region (Thailand, Lao PDR, Cambodia, and Myanmar), research institutions, representatives from Ministry of Agriculture, departments of Agricultural Land Resources Management, and NGOs. The first focus of the event was on e-learning as an integrated tool between different actors and beneficiaries. Discussions were conducted prior the event one between ITC, SupAgro, RUA, Queensland University, GDA/DALRM, GRET and CIRAD to identify common expectations for this event and outputs.

The main advantages of a MOOC are related to the involvement of a large number of students and beside that to a large diversity of actors. The audience of the MOOC Agroecology from SupAgro illustrates this characteristic with only 7% of the audience which is of student type and more than 50% which corresponds to a public of the type operators of development.

Different beneficiaries are targeted with smallholder farmers, consumers, higher education, development operators and policy-makers. Each beneficiary has specific expectations, and also uses and has access to different technology and communication tools. The ‘starting’ point per beneficiary should be on the uses and accessibility of training/education and communication tools by different beneficiaries. Smallholders farmers have more and more access to Smartphone applications that are used as a way to share knowledge from farmers to farmers, from development operators to farmers. On another hand, development operators and higher education systems constitute a continuum with beneficiaries who can share common training and education resources; in this case e-learning tool can be promoted as an integrating support making the bridge between these two groups.

During the workshop it was emphasized 3 main points likely the need to ensure the quality of the resources that are developed, to take into account the maintenance of an e-learning

platform that requires high technical support, and to start first through a pilot action as it requires a lot of time.

https://ali-sea.org/towards-a-regional-initiative-to-develop-e-learning-resources-in-agroecology-phnom-penh-cambodia-11th-of-october-2017/

- **Youth and agroecology short film competition, November & December 2017**

On 9th & 10th of December 2017, ALiSEA has organized a side event in the framework of the Luang Prabang Film Festival addressing Sustainable Farming and Agroecology. This event was meant to emphasize the important role of the youth as part of the solution to lead an agricultural revolution in the Region. Across the Mekong Region, thousands of innovative farmers have already engaged themselves in an agro-ecological transition, moving away from conventional and chemical based farming practices. They are developing new and improved practices, building upon both traditional empirical knowledge and scientific research for a better understanding and use of ecological processes operating in farming systems. The overall objectives of the competition was to:

- To raise public & policy makers awareness about the need to support alternative farming practices and shift away from conventional chemical agriculture
- To encourage and shed the light on young farmers that are already actively involved in sustainable farming and agro-ecological transition
- To promote local initiatives in Luang Prabang supporting organic and agro-ecological farms

This film competition was opened to all film makers of the Mekong Region. We have received over 20 short movies. The three (3) winners of the short film competition were attending the award ceremony and introduced briefly their movies

- 1st Prize: “Mr. Ken,” by Sonepasith Phanphila
- 2nd Prize: “What Did You Learn?” by Houmphanh Phahongchanh
- 3rd Prize: “The Pyramid Compost,” by Inbar Jeffery

During the event, additional sessions to the award ceremony were organized such as an Agroecology Market and Knowledge Fair, a photo exhibition and a public conference about “We are what we eat”. All these short videos of the short film contest can be watched on the dedicated playlist of the ALiSEA YouTube Channel here: http://bit.ly/2lPeN5e

- **Organize photo contest “Picturing agroecology initiatives in the Mekong Region, July 2018**

In July 2018, ALiSEA team launched a photo contest to showcase the beauty and the diversity of agroecology initiatives in the Mekong region. There were four (4) categories for the photos contest: (i) Youth and Agroecology, (ii) Agroecology in practices, (iii) Marketing agro-ecological products and (iv) Biodiversity and Agroecology. We have received over 40 photos from the Mekong region. The 20 best photos have been displayed during the Agroecology Futures Regional Forum, in Cambodia, during the week of the 5th of November

2018. Out of the 20 photos of the exhibition, 3 have been elected by the participants during the Regional Forum and received prizes: ADG, CIRD and Saffron Coffee.

- **Regional workshop about Participatory Guarantee Systems (PGS) to promote agroecology in the Mekong Region, October 2018**

On the 1 – 3 of October 2018, over 65 participants from 12 nationalities coming from 6 countries (Cambodia, Laos, India, Myanmar, Thailand, Vietnam) and from different background (Government agencies, Research Institutes, Universities, Development practitioners and private sector) gathered in Vientiane, Laos, for a Regional experience sharing workshop about Participatory Guarantee Systems (PGS) to promote Agroecology in the Mekong Region. The objectives of the workshop were: 1/ Sharing experiences in the implementation of PGS from the perspective of different stakeholders, 2/ Identifying and better understanding the constraints to the development of genuinely participatory PGS, 3/ Drawing operational and policy recommendations for an improved and widespread implementation of PGS across the Mekong Region.

Participatory Guarantee Systems emerged over 40 years ago, as “locally focused quality assurance systems […] based on the active participation of stakeholders and built on a foundation of trust, social networks and knowledge exchange” (IFOAM-Organics International, 2008). In several European countries (France, Italy, Spain, Portugal, Japan) organic farmers were initially inspected by committees that involved farmers as well as retailers, processors and/or consumers (Sylvander, 1997). Later on, PGS were revived in Brazil (where alternatives to certification have been sought since the 1990s), India and Mexico (Fonseca et *al*., 2004; Khosla, 2006; Nelson et *al*. 2016). Today, PGS are recognized as a suitable alternative to third-party certification for smallholders for several reasons: 1/ the cost of participation is much lower, and mostly takes the form of voluntary time involvement rather than financial expenses (May, 2016); 2/ by developing trust and mutual understanding between farmers and other stakeholders, PGS help develop multi-stakeholder dialogue and collective learning processes (PGS is often characterized as “knowledge intensive”); 3/ as a result, PGS are powerful instruments to stimulate local market development as they play a key role in developing consumer confidence in local produce.

PGS are therefore particularly relevant for organic and agro-ecological products in the Great Mekong Sub region (GMS), where a large majority of producers are smallholders who could benefit from a low-cost and adaptive certification system to access niche markets with premium prices and thereby foster organic and agro-ecological farming in the sub region. Moreover, recent studies (Vagneron *et al*., 2015, Vagneron *et al.,* 2018) show the extent of consumer concern regarding food safety, and consumer ignorance regarding sustainable production methods in agriculture. Under the ALiSEA Small Grant Facility, 3 initiatives have been supported to promote PGS in different GMS countries:

- **Cambodia:** Promoting organic vegetable through customer engagement in PGS
- **Myanmar:** Improvement of Organic – PGS Certification Awareness
- **Vietnam:** Capitalization of Participatory Guarantee System experiences in Vietnam for upscaling & institutionalization

The regional workshop followed a three steps approach: (i) A field visit to provide participants with a first-hand experiencing organic agriculture in Laos (visit to two different farms, and to the Vientiane Organic Market) and opportunities for informal networking and get to know each other among workshop participants; (ii) A full day dedicated to take stock of existing initiatives & knowledge about PGS in the GMS through Key note presentations, Case studies addressing diversity of PGS initiatives across the Mekong Region and a Knowledge fair & Poster session, (iii) A full day of Reflecting & working collectively with group work to further develop PGS at country level & a World café to identify best practices & policy recommendations for development practitioners, policy makers and private sector. Proceedings of the regional workshop is available here

https://ali-sea.org/aliseaonlinelibrary/proceedings-regional-experience-sharing-workshop-participatory-guarantee-systems-in-the-mekong-region/

R2.4: THE CONDITIONS ARE SET UP FOR ALiSEA TO BECOME AN EFFECTIVE AND RECOGNIZED REGIONAL "AGRO-ECOLOGICAL LEARNING ALLIANCE", PROVIDING USEFUL SERVICES TO THEIR MEMBERS AND TO THE AGRO-ECOLOGICAL MOVEMENT AS A WHOLE

ALiSEA is an effective and recognized regional alliance and provide useful services to their members

ALISEA is a new initiative that requires time to reach the level of expected effectiveness and recognition. It is crucial to build up national dynamics and ownership of organizations in each country as necessaries conditions for ALiSEA to become an effective and recognized "Agroecology Learning Alliance". The ALiSEA team supported the process of national platform structuration based on a bottom-up approach to ensure a network rooted locally. During the four years of project implementation, the number of organizations which joined the alliance and share ALiSEA vision has grown significantly. To do this, the ALiSEA team relied on the following intervention principles:

- Identify relevant organizations and attract them with a wide range of services;
- Encourage national dynamic in each country to foster local ownership;
- Support the process of national platform structuration in a flexible and informal way in order to take into account national priorities issues raised by members;
- Implement and support studies as well as co-research process to build field-evidence based and document agroecology practices and approaches;
- Set up channels for agriculture professionals to access information about agroecology;
- Support and boost innovation by launching small grant facility

The national secretariats are the first linkage between members and the network actions. They ensure regular communication and exchange with members as well as provide a diversity of services. The main ones are listed below:

- Organize and coordinate meetings / workshops to address priority issues on agroecology;
- Recommend and identify members as key relevant speakers to share their work and experience at a conference;

- Network and facilitate contact between organizations;
- Promote members work by sharing news and documents (article, pictures, report, upcoming events, video);
- Share information about agroecology development through the communication tools;
- Facilitate linkages between private sector and organic farmers cooperatives;
- Provide key reference documents on technical issues (pest management on fruit trees, legumes cover crop etc.);
- Support students seeking for internship on agroecology;
- Publish job vacancies and training opportunities;
- Provide contacts of trainer and experts on agroecology;
- Train organization of smartphone video production and broadcasting.

Within the past four years, ALiSEA members have participated to many different conferences and workshops on a large diversity of topics (food systems, crops productions, climate change, higher education etc.). ALiSEA has been invited by different category of members like research centers, universities, farmer organizations and NGOs as panellists to share vision and objectives of the alliance, present agroecology situation at national and regional levels and provide inputs on agroecology transition support. Some examples of these events are listed below:

- Development of Ecologically-based Participatory IPM Packages for rice Program Annual Meeting organized by IRRI in December 2016,
- Greening Agri-food Systems organized by Chulalongkorn University in January 2018,
- Lao Uplands Forum: Landscape of opportunities organized under the umbrella of the Sector Working Group on Agriculture and Rural Development in March 2018
- Annual Scientific Day organized by Institute of Technology of Cambodia in May 2018
- Symposium on climate change resilience – turning a buzz-word into action organized by DCA, FCA and LWD in June 2018,
- Mountain Futures Conference organized by World Agroforestry Center in June 2018,
- Regional Vegetable Forum organized by ACIAR in September 2018,
- SRI in Lower Mekong River Basin by Asian Institute of Technology in November 2018,
- Spreading Sustainable Agricultural Practices and Panel Discussion on "What is the Future of Sustainable Agriculture in Cambodia?" organized by Louvain cooperation and the Royal University of Agriculture in December 2018,
- Farmer Forum on agro-ecological practices and food sovereignty organized by Kalyana Mitta Development Foundation in March 2019
- Regional Workshop on Scaling-up Agroecology in ASEAN Higher Education to meet SDGs and ensure climate resilience organized by Chulalongkorn University June 2019.

For instance, in 2019, as part of the Partnership for Citizen Engagement project, organizers LYO, HJA and Oxfam asked ALiSEA national facilitator to be part of the selection committee to support small-grant funds to young farmers in Laos. The project aims at enhancing the capacity and collaboration of Lao Youth across various institutions for positive local development outcomes. Lastly, the Agroecology Learning Alliance has developed relationship and collaboration with other networks such as the Mekong Extension Learning Alliance, Towards Organic Asia, Food Security Working Group in Myanmar and Mekong Youth Farm Network.

Set up and implement a 'Small Grant Fund" for cofounding activities

The Small grant facility (SGF) has allocated its entire budget through two (2) calls for proposals in October 2016 and March 2017. A total of 26 small grants have been allocated and successfully completed (Annex 2). All the knowledge products have been collected and uploaded on ALiSEA website:

- https://ali-sea.org/call-for-proposals-october-2016/granted-projects/
- https://ali-sea.org/granted-projects-2017/

A guidelines manual of the ALiSEA Small grant facility procedure has been developed to ensure common rules and to clarify the evaluation process. In addition, a guideline for the application of the call for proposal has been made available on the ALiSEA website as well as template for the concept note, full proposal and detailed budget. In February 2017, four information sessions have been organized in each country to present the guidelines and objectives of ALiSEA Small Grant Fund.

The Small grant facility aims (i) to provide flexibility and reactivity for promoting Agroecology stakeholders initiatives, (ii) to co-fund activities aiming at linking stakeholders, sharing experience, documenting case studies, building innovative concepts; (iii) to enhance and complement existing projects, initiatives and networks, and finally (iv) to support initiatives with clear added value for linking and bridging agroecology set of practices, and for contributing to the credibility, visibility and scaling up of the agroecology movement. The Small grant facility has particularly considered proposals that:

- Share experiences (e.g.: field visits, training sessions relating to AE practices),
- Document case studies (e.g.: crossed evaluations involving different stakeholders & research / academia, AE practice performance evaluation…),
- Test new practices (e.g.: farmers' groups willing to experiment new agriculture practices…), disseminate success-stories (e.g.: farmers to farmers video, radio show…),
- Raise funds (e.g.: formulation of specific projects for ALiSEA members…)
- Co-organize national or regional event promoting agroecological transition

The grants proposed are co-funding with a maximum of 10,000 USD per project. It was opened during one (1) month period and to any type of agroecology stakeholder, provided that they contribute to the general goals and respect the principles of the SGF. Considering that ALiSEA was at this initial stage, it was decided that the SGF should not restrict the applications to only ALiSEA members and provide flexible guidelines regarding the topics of the project. Furthermore, the SGF was a powerful tool to provide visibility to the network as well as to have a better view of the field-based initiatives engaged in agroecology transition.

Priority has been given to proposals addressing national priority issues as identified during national initial multi-stakeholder workshops. The table 6 summaries the main priority issues raised during these national workshops.

Country	Main priority issues raised
Myanmar	• Decreasing soil fertility due to monocropping, and over/misuse of chemical fertilizers and pesticides • Poor farmers' knowledge in pest and disease management and strong lobby from agrochemical companies • Need for strengthening production of local good quality seed varieties (drought, flood, salt tolerant varieties) • Need for consumers and stakeholder's awareness in safe and quality products • Promotion of PGS, GI and other collective control on produce quality and safety • Agricultural policy focused on conventional agri-business, ignoring importance of small farmers and their needs • Limited knowledge of farmers in land laws and implementation
Cambodia	• Need for advocacy & lobbying regarding agroecology promotion • Support local organizations to make their voice heard and understood at provincial and national levels • Support marketing and increased added value for agroecological or organic products • Promote consumers awareness and support linkages between producers and buyers • Document case studies of successful agroecology farming systems compared to chemical agriculture • Document investment cost & gross margin for supporting adaptability / mass adoption of agroecology practices • To support information dissemination & mainstreaming agroecology concept at farmer level through farmers federations
Vietnam	• Overuses of chemical fertilizers / pesticides combined with weak legal system allowing counterfeit fertilizers / pesticides on the market • Land degradation (monocropping, chemical uses, reduced returns of biomass (incl. manure / composts) • Lack of consumer's trust, confidence in the credibility and legal enforcement of quality assurance • Lack of legality of agroecology, need to include agroecology concept in MARD's restructuring orientations • Need for understanding consumer's demand for agroecology products and preference of quality assurance (communication technology / innovations) • Building and relying on networks to expand production scale, diversify products, responsiveness to market demand
Laos	• Need for research, cases, dialogue about new metrics for measuring progress in the agriculture sector • Need for mass communication efforts (video, radio, internet etc.) to promote the value of farmers and farming (giving greater respect to the crucial roles of rural people in development) • Need for developing strategies aiming at informing and persuading others stakeholders… not just internal sharing • Enhance connection between the agroecology network, LIWG and other initiatives such as MRLG, and the GIZ pilot activities in Huaphan • Need for research about the relationship between tenure, the adoption of agroecology practices, and the success or failure of Community based natural resource management (Identify success factors). • Bring good cases to the national level, possible through other platforms

Table 6: Main priority issues raised by country in 2016

Expected outputs of the small grant facility were:

- Lesson sharing and cross learning process will be encouraged by giving priority to multi agro-ecological practices and multi-partners projects
- Organizations awarded with small grant will have the obligation to produce two short "agro-ecological transition stories"
- Such stories will feed the ALiSEA website and will be broadly disseminated across the region to all agro-ecological stakeholders.
- Brief narrative and financial report will be also expected

During the first call for proposal in 2016, we received a total of 47 concept notes from the four targeted countries: 16 from Vietnam, 12 from Myanmar, 11 from Laos and 8 from Cambodia. Out of the 47 concept notes, 25 have been selected for the full proposal stage, 6 from each country and 1 with a regional focus. Finally, 12 full proposals have been selected and funded. **During the second call for proposal in 2017, we received a total of 73 concept notes**: 19 from Cambodia, 8 from Laos, 22 from Myanmar, 20 from Vietnam and 4 Regional. Out of the 73 concept notes, 28 have been selected for the full proposal stage and finally, 14 initiatives have been selected and funded. On average ALiSEA SGF was allocated two (2) to three (3) grants per year per country. All ALiSEA Grants are listed in the Annex 2.

	Call for proposal 2016	Call for proposal 2017	Total
Laos	3	2	5
Myanmar	3	3	6
Vietnam	3	4	7
Cambodia	2	4	6
Regional	1	1	2
Total	**12**	**14**	**26**

Table 7: Main priority issues raised by country in 2016 and 2017

The period of November 2017-April 2018 has been dedicated to follow up on the implementation of small grants with field visits, meetings and email exchanges, but also and mostly to review and approve all knowledge products that came out of the different small grants. In addition, and with the objective to disseminate them as broadly as possible, all final reports and leaflets of the CANSEA small grants have been also uploaded to the online library of ALiSEA starting by November 2018.

A brief summary of the small grants is given below and in Table 8.

Summary of ALiSEA Small Grants

From 2016 to 2018, ALiSEA network funded 26 organizations to support agroecology initiatives in the Mekong region through two competitive calls for projects with a total of 120 proposals: 6 in Cambodia, 5 in Laos, 6 in Myanmar, 7 in Vietnam and 2 Regional. These Small Grants involved a great diversity of actors – farmers, university teachers, development practitioners and government bodies – and played an important role in supporting the testing, innovating and knowledge capitalizing process fostering a transition toward agroecology in the Mekong region.

These call for proposals were opened to any stakeholders, providing that they contribute to the overall objective of ALiSEA, and targets Cambodia, Laos, Myanmar and Vietnam. The small grant initiatives contributed to document successful initiatives at different levels, from field to policy level, from farming unit to regional scale; which were translated into several knowledge products (cases studies, videos, poster, leaflet).

These small grant initiatives can be organized in five thematic parts, addressing complementary aspects of agroecology and answering similar challenges:

1. Agroecology in the uplands with deforestation and input intensive cropping practices as key challenges in mountainous areas in the Mekong region;
2. Agroecology in the lowlands, three initiatives linked to climate change adaptation where floods and drought frequent episodes become a growing concern for farmers;
3. Agroecology and cross-cutting regional challenges focusing on three main common regional challenges including decreasing soil fertility, pest and disease occurrence, and seed biodiversity losses;
4. Agroecology & people, supporting the emergence and building the capacities of a new generation of agroecology promoters' likely farmers, youth, students to build and share a common vision on sustainable agriculture in the Mekong region;
5. Agroecology and food systems, innovative approaches on bringing agroecology to the market to respond to consumers concerns about the quality and the safety of the food

It offers an insight into concrete actions, accumulated experiences and knowledge to move toward agroecology transition. ALiSEA considers these stories as first hand and precious illustrations from the field. It aims at sharing successful and concrete examples of stakeholders acting for the transition toward agroecology, with the objective of inspiring others.

Lastly, the diversity of the agroecology initiatives and stakeholders highlight the necessity to have a holistic approach and promote agroecology across all levels and dimensions for ensuring the transition. This means combining different actions from co-creating and testing new practices, bringing together farmers, development practitioners, research centers and private sector, to integrating agroecology in the university curricula and fostering market access innovations.

Name of Organization	Name of Small Grant Initiative and ALiSEA website link	Knowledge products
Cambodia		
Aide au Développement Gembloux (ADG)	Developing innovative business model for Agricultural Cooperative to produce and collectively supply natural fertilizer to local producers	Article on Bokashi Article on Awareness campaign Case study
Mondolkiri Indigenous People's Association for Development (MIPAD)	Bridging Agriculture to Ecology Conservation Among Indigenous People Communities in Mondulkiri Province	Case study: Forestry smart agriculture and livelihoods Case study: The transition of forest based medicinal plants to garden based medicinal plant
Natural Agriculture Village Shop (NAV)	Promoting Organic Vegetables through Customer Engagement in Participatory Guarantee Systems	Case study: Story of MR and MS Chheangmeng Case study: PGS Organic Veggies and Market Support in Cambodia
Ockenden Cambodia	Promoting Agroecological related Skills Among Local Community and Key Actors	Three success stories
Royal University of Agriculture (RUA) & Svay Rieng University (SRU)	Economic, Health and Ecological Benefits through Application of Net House and Organic Fertilizer in Vegetable Production	Case study: Official learning from each other is something special Case study: High quality net house is our next destination
Vivre de sa Terre	Khmer Online Meta-Network Agroecological Training (KOMNAET)	Case Study: Mr. Sorn's legum-based cropping systems Case Study: Ms Sourt Sear's vegetable garden 8 Posters on Agroecology Practices
Laos		
Association for Rural Mobilisation and Improvement (ARMI)	Evaluation of Impacts of Integrated Agriculture on Local People's Livelihood and Environment	Evaluation of Impacts of Integrated Agriculture on Local People's Livelihood and Environment (video) https://bit.ly/2q3coGz
Faculty of Agriculture, NUOL, FAG	Developing of Teaching & Learning Material in Agroecology in the Lao PDR	Agroecology Manual Agroforestry Manual Integrated Agriculture Manual

		Organic agriculture Manual
Huam Jai Asasamak Association (HJA)	Identifying Barriers in the Adoption of Agroecological Practices in Rural Laos	Identifying barriers to the adoption of agroecological practices in rural Laos
Social Policy Ecology Research Institute (SPERI)	Promoting agroecology farming for self-reliant livelihood of local upland farmers through documenting the case of native eco-vegetables of the Hmong community of Long Lan village, Luang Prabang district, Luang Prabang province	Case study: Native eco-vegetables of Hmong community in Long Lan village, Luang Prabang province, Laos Case study: Integration of the ecological vegetables and community cattle breeding in Long Lan village, Luang Prabang province, Laos
Green Community Development Association (GCDA) & Waste Eco Solution Pte Ltd (WASECO)	Increasing incomes of Organic farmers through insect-basedbio-conversion of brewery wastes into animal feed and Bio-fertilisers in Rural Communities	Manual in Thai for chicken feeding and video https://bit.ly/2CBODIe https://bit.ly/33Gi8ED
Myanmar		
Chalmers University	Agro-ecology for resilient and sustainable livelihoods of natural disaster affected groups: Coevaluation and research in development with smallholders of Tonzang, Tedim and Kale townships in north-western Myanmar	Case study 1: Agroecology for resilient and sustainable livelihoods of natural disaster affected communities in Myanmar: Lessons from the STRONG project approach to farmer field schools (FFS) in Chin State and Sagaing Region" Case study 2: Addressing climate vulnerability and farming system challenges with local agroecological knowledge: Insights from collaborative research with rural communities in Chin State and Sagaing Region, Myanmar
ECHO Asia	Saving seeds, securing biodiversity, and sustaining rural livelihoods in the	Press article: the value of seed: a growing network of community level

	Irrawaddy Delta	seed banks in Asia
Myanmar Institute for integrated development (MIID)	Upland Value Chains and Climate Change Adaptation in Taungyoe Ethnic Communities	Case study: Addressing the challenges of upland farming in southern Shan state for climate resilience Case study: Supporting sustainable livelihoods and reclaiming degraded land by enhancing agroforestry in southern SHAN state
Myanmar Organic Grower and Producer Association (MOGPA)	Improvement of Organic PGS Certification Awareness	Case studies Factsheet
Partners	Easy Gardens	Case study Factsheet
Terres des Hommes Italia (TdH)	Ecosystem approach for drought resistant home gardening in Central Dy Zone	On-Soil Home Garden Manual: Ecosystem approach for drought resistant home gardening in Central Dy Zone, english and myanmar versions
Vietnam		
Agriculture and Forestry Research & Development Center for Mountainous Region (ADC)	Promotion of indigenous knowledge based climate change resilient and organic farming practices in the northen mountainous region of Vietnam	Book: Promoting Indigenous Knowledge and Good Agricultural Practices in Climate Change Adaptation - English and Vietnamese versions Sucess story 1: A story from Mrs Phuong Success story 2: A story of Mr Hai
Northern Mountainous Agriculture and Forestry Science Institute (NOMAFSI)	Recycling of rice plant residues for enriching lands with organic matters and in-time cultivation of next crop	Success story: “a story of a Dao Woman in Bac Kan Province”

Research Center for Rural Development (RCRD) – An Giang University	Conservation of the floating rice – based agro-ecological farming systems in the Mekong Delta	Book: Conservation and Development of the Floating Rice Based Agroecological Farming Systems https://ali-sea.org/aliseaonlinelibrary/conservation-and-development-of-the-floating-rice-based-agroecological-farming-systems-in-the-mekong-delta/
Research centre for Gender, Family and environment (CGFED)	Sharing epxerience and replicaion of agri model adpated to Climate Change for women	Success story 1: Ms. Do Thi Hai, Chairwomen of Women's Union, Nghia Minh Commune Success story 2: Ms. Mai Thi Dung, Hoang Nam Commune, Nghia Hung District
The Consutative Institute for Socio Economic Development of Rural and Mountainous Areas (CISDOMA)	Promoting agroecology transiton via enhanicng farmers' analytical and decision making capacity through application of simulation games	Article: enhancing farmers' analytical and decision-making capacity through application of simulation games
The International Cooperation Center (ICC) – Thai Nguyen University	Adaptive Research on Rice/Potato Rotation Model (applying SRI for rice and minimum tillage method for potato) in Paddy Land of Phu Binh district, Thai Nguyen	Narrative report from ICC SRI-GPM final scientific report Guide of winter potato cultivation by GPM Guide of Summer rice cultivation by SRI Guide of Spring rice cultivation by SRI
RIKOLTO	Capitalisation of Participatory Guarantee System experiences in Vietnam for upscaling & institutionalisation	Policy Brief: Building trust in safe and organic vegetable chains through Participatory Guarantee Systems (PGS) Executive Summary: 10 years of Participatory Guarantee Systems in Vietnam –A Capitalization Study Participatory Guarantee System Learning Series – Case Study 1 "PGS organic in Thanh Xuan, Hanoi – An example of sustainability" Participatory Guarantee System Learning Series – Case Study 2 "When PGS falters: key lessons for the improvement of PGS in Vietnam"
Regional		
Towards Organic Asia & School of Wellbeing	Young Organic Farmers: The Journey of Hope	Case Study: Young Organic Farmers

Studies and Research		
UNESCO	Developing of Teaching & Learning Materials	Agroecology Manual Agroforestry Manual Integrated Agriculture Manual Organic agriculture Manual

Table 8: List of the ALiSEA small grants and associated knowledge products

R2.5: THE MODALITIES OF GOVERNANCE, FINANCE AND INSTITUTIONALIZATION OF ALISEA ARE DEFINED.

Set up a scientific board of experts in each country and at regional level, which will be involved in the selection and evaluation of the SGF projects

All national experts in each country have been identified with a large representation of academics. Three (3) to five (5) experts per country form this national board of experts. A summary table with all the names, positions and institutions is enclosed hereafter (Table 9). Specific Terms of reference for such national experts has been developed and is available upon request. Evaluation grid for the small grants has been developed by ALiSEA team and then shared with all national experts for clarifying all selection criteria. A dedicated meeting with all national experts was organized before starting the process of evaluation in order to clarify all potential questions on their side and to harmonize the comprehension amongst all experts. All the experts have been mobilized during the organization of the different General Assembly Meeting at country level between 2017 and 2018. National scientific boards aim at ensuring the quality and credibility of the network. The key challenge was to mobilize expert in addition to their daily work. The evaluation process was quite time-consuming and so difficult to be reactive in the implementation of these small-grants. Lastly, it would have been interested to organize field visit of the small-grant project with the selection committee to involve them during the implementation and provide inputs.

Vietnam

	Name	Position	Organization	Stakeholder nature
1	Dr Dao The Anh	Director	Centre for Agrarian Systems Research and Development (CASRAD)	Government
2	Dr Pham Van Hoi	Director	Center for Agricultural Research and Ecological Studies (CARES), Vietnam National University of Agriculture	Academia
3	Prof Pham Thi Thuy	Deputy Chairman (VOAA) Emeritus Professor (HNUE)	Viet Nam Organic Agriculture Association (VOAA) Hanoi National University of Education (HNUE)	Academia
4	Dr Cao Thi Lan	Dean	Faculty of Agriculture and Forestry, DaLat University	Academia
5	Assoc. Dr. Hoàng Văn Phụ	Director	The International Cooperation Centre (ICC), Thai Nguyen University	Academia

Cambodia

	Name	Position	Organization	Stakeholder nature
1	Dr Phin Sopheap	Deputy Director	Prek Leap College of Agriculture	Academia
2	Dr Ly Proyuth	Agri consultant	Freelance consultant	Experience with NGO, FAO
3	Dr Neang Malyne	Lecturer and Director	Royal University of Agriculture / Ecoland Research Center	Academia
4	John Muir	Farm Manager/Senior Agronomist	Soma Rice Group	Private Sector
5	Florent Tivet	Agronomist	CIRAD	Research Center

Lao PDR				
	Name	Position	Organization	Stakeholder nature
1	Assoc. Prof. Dr. Sithong Thongmanivong	Director	Research & Service Division/Faculty of Forestry/NUOL	Academia
2	Dr. Lampheuy Kaensombath	Director	Research & Service Division/Faculty of Agriculture/NUOL	Academia
3	Assoc. Prof. Dr. Silinthone Sacklorkham	Vice-Dean for Academic Affair	Faculty of Agriculture/NUOL	Academia
4	Mr Khamsone Sysanhouth	NUDP project director	MAF	Government

Myanmar				
	Name	Position	Organization	Stakeholder nature
1	U San Thein	Agri Consultant	Freelance consultant	Long Experience with Government and NGO
2	Dr Myo Kywe	Rector	Yezin Agriculture University	Government, teaching
3	Dr Ohn Mar Khaing	Program Manager, Myanmar	Australian Center for International Agricultural Research (ACIAR)	INGO, advisory to parliament
4	U Hla Min	Chair Person	Myanmar Organic Grower and Producer Association (MOGPA)	Private sector/ Farmers' organization

Table 9: Members of the scientific board of Vietnam, Cambodia, Lao PDR, and Myanmar

Support national secretariats hosted by country partners

Recruiting process of the national secretariats

The national secretariats ensure the facilitation and operational work of the network. With the support and advise of the national coordinator, they were in charge of the following issues:

- Agroecology knowledge gathering and sharing (undertake agroecology related issue watch, collect case studies, success stories, stakeholders' testimonies etc.)
- Networking, communication support and events organizations (support identification and organization of thematic workshop, enlarge ALiSEA member basis and strengthening agroecology alliance, facilitate national and regional studies, research and collective actions etc.)
- Support the Small Grant Facility process including information session, join the selection committee, monitor and follow up the granted project

In order to guarantee the sustainability of this position and to enhance its role, the national secretariat is a part time position sharing his/her time with another position in an active Non-Profit Association in the field of rural development. The table below shows the partners who hosted the national secretariats in each country:

	National Secretariat	Organization	Starting Date
Cambodia	Louvain Cooperation	International NGO	July 2017
Vietnam	CASRAD	National research institute, contractual arrangement with PHANO	July 2017
Myanmar	Alin Ein	Local NGO	November 2017
Laos	Rural Development Agency	Local NGO	June 2018

Table 10: Organizations which hosted the national secretariat

During the first general assembly, the coordination team presented the role and responsibilities of the national secretariat position and so launch a call for interest among members. It was clearly mentioned that GRET was seeking for organizations already involved in the network with broad areas of intervention at national level. Organization interested to handle this position were asked to send application of interest mentioning (i) a description of their intervention, (ii) why are you interested, (iii) if they are already part of other national networks and which ones and finally, (iv) to describe how do they see their involvement and role as national secretariat.

In Cambodia and in Laos, organizations willing to host the national secretariat of ALiSEA did not have any staff available assigned and handle this position which requires 70 to 80% of his/her time. Thus, it was decided to jointly recruit and select a new person. The organization was interested to have the opportunity to recruit new staff with high qualifications thanks to the funding support of ALiSEA and play a key role in the emergence of the national network. ALiSEA coordination team was

interested to be part of the selection process of the person as the national secretariat position requires strong and diverse skills and competencies.

In 2019, After a strong commitment to the emergence and the development of ALiSEA network in Cambodia, the national secretariat decided to end his duties because he wanted to create his own company to improve the agriculture supply chain in Cambodia by connecting farmers/producers to consumers in order to serve as a platform. This new company named Spien, under registration process, could become one of ALiSEA member. Unfortunately, in Laos, the national secretariat ended his duties in December 2018 due to limited capacity to carry out and perform the tasks assigned. Ms. Hongnapha Pommabouth has ensured the role and responsibilities of the national secretariat.

- **Training support on smartphone video production in Laos**

From 27th November to 1st December 2017, ALiSEA organized a smartphone video making training in Vientiane, Laos. This was conducted by an international professional film maker, Germain Priour, who has a long-standing experience in this field and has already collaborated with GRET in Cambodia to conduct similar training but targeting farmers. Participants to this training were all the national coordinators and focal points of national secretariat of ALISEA as well as one staff from DALaM. These participants will record once in their country the local agro-ecological practices and then share it nationally and regionally through the ALISEA's network. The objective of the 5 days training was to learn about

- Shooting,
- Editing and exporting in internet format and in screening format
- Uploading on the database

During the training the focus was on experiential learning, repetition and discussion. A range of exercises were used to help the participants identify their main challenges after which they highlighted specific issues and prioritized the subjects they want to document. In the process of learning to use video cameras on smartphones, they practiced recording one another as well as planning videos using simple storyboards. They then created final storyboards for their collaborative filming before heading out to film in their farms and villages. Some of the first short films created on smartphone by ALiSEA team and farmers in Cambodia can be watched on the playlist of YouTube channel of ALiSEA (https://www.youtube.com/watch?v=Qi0BEB1bQso&list=PLWGkM5muOuSjdGjU7pu3hGfuXVRntBii7)

As a conclusion, ALiSEA has facilitated the emergence of national secretariats in the 4 targeted countries. At the end of the project, two national secretariats are still functional (Myanmar and Vietnam). They received technical assistance and backstopping from GRET regional and national coordinator as well as one training session on smartphone video production. Their organization received financial support to contribute to their position. The perspectives of the national secretariats should be further discussed with members as it was initially planned to be renewed on a yearly basis in order to increase involvement of ALiSEA member in its

governance. However, this principle of yearly rotation could weaken the effectiveness of the network as it requires to support and build the capacity of new person.

Support the organization of national General Assembly meetings

The general assembly meetings provided a space for (i) presenting and sharing ALiSEA progress activities (1st year) and updates on granted organizations of the 1st call for proposal from ALiSEA and CANSEA Grant Facility, (ii) reinforcing and envisioning a broad coalition of stakeholders involved in the promotion of agroecology through the approbation of ALiSEA 1st charter, and finally (iii) sharing and facilitating multi-stakeholders discussion on their vision and practices of agroecology in order to reach common understanding in each country.

The GA meetings were attended by participants from a broad diversity of organizations (Local & International NGO, Farmer Federations, Research Centers, Academia, Private Sector and Government Agency). In total, 208 organizations joined the GAM across the four (4) countries.

Country	Date	Participants	Report
Cambodia	21st & 22nd March 2017	60	https://ali-sea.org/alisea-1st-annual-general-meeting-in-cambodia-siem-reap-21-22-march-2017/
Laos	24th & 25th July 2017	47	https://ali-sea.org/alisea-1st-annual-general-meeting-in-laos-vientiane-24-25-july-2017/
Vietnam	13th & 14th November 2017	55	https://ali-sea.org/alisea-1st-annual-general-meeting-in-vietnam-hanoi-13-14-november-2017/
Myanmar	22nd & 23rd February 2018	46	https://ali-sea.org/alisea-1st-annual-general-meeting-in-myanmar-yangon-22-23-february-2018/
Total participants		**208**	

Table 11: Number of participants to the General Assembly Meetings in 2017

The ALiSEA coordination team has also facilitated the formulation of a chart that recapitulates values and approach of ALiSEA. It has been presented and endorsed during the GAM. The document is available for download here https://ali-sea.org/wp-content/uploads/ALiSEA-charter_V4_March17-1.pdf

ALiSEA consultation process towards shaping the governance

In May 2018, the coordination team launched a consultation process with a view to the initiate discussion regarding the future of the network and members expectations. During a three (3) months period from July to September, ALiSEA members were asked to contribute through the online consultation survey in order to share their opinion on the performances of the network and provide suggestions to improve it. It was important to provide enough time to members in order to ensure good representativity of the network. The online consultation survey collected 64 responses including 51 members and 13 non-members.

	Category	Nb of Member	Nb of Non-Member	Country	Nb of respondents
64 RESPONDENTS	International NGOs	19	3	Cambodia	**25**
	Local NGOs	16	3	Myanmar	**16**
	Private Sector	4	2	Vietnam	**13**
	University	12	5	Laos	**10**
	Total	**51**	**13**	**Total**	**64**

Table 12: Respondents to ALiSEA online consultation survey in 2018

By completing the survey, members were also asked if they would like to further engage in ALiSEA and set the way forwards for ALiSEA network through joining a working group at national level. Thus, a task force of around 15 members has been set up in each country to address the priority issues for the network and its governance modalities for the future.

From September 2018 until beginning of 2019, we have run a series of meetings within the four countries in order to continue the reflexion process engaged with members related to the governance, the priority issues, the needs and the perspectives of the platform. The findings of this online consultation alongside with the findings of the external evaluation of the network (which was carried out earlier in 2018) were presented during these national task force meetings. We believe that it was important to launch a reflexion with a core group ahead of the Agroecology Futures Regional Forum. The table below summaries the date of the task force meetings:

	1st Task Force Meeting	2nd Task Force Meeting
Myanmar	27th September 2018	10th December 2018
Vietnam	12th October 2018	11th December 2018
Cambodia	18th October 2018	10th January 2019
Laos	Only one meeting, 27th November 2018	

Table 13: List of task force meetings organized by country

A consolidated presentation of the four countries expectations have been done and shared during the Agroecology Futures Regional Forum. The table 14 gives the main three regional agroecology priority issues raised by members.

#	Agroecology Categories	REGIONAL	
		Total Vote	Percentage
1	Market access and certification for AE products	45	20.5 %
2	Education & Training/Dissemination/Extension	37	16.8 %
3	AE & Climate Change	30	13.6 %
4	AE & Youth (Youth in Agriculture)	22	10.0 %
5	AE food system	15	6.8 %
6	Upscaling AE/Barriers to dissemination & adoption of AE	14	6.4 %
7	AE Crop Protection	13	5.9 %
8	Advocacy and Public Policies	17	7.7 %
9	AE Performance Indicators	11	5.0 %
10	Nutrition Sensitive AE/Nutrition Sensitive Agriculture	14	6.4 %
11	AE and Women	1	0.5 %
12	Other (suggest Gov. to get and resolve farmers…)	1	0.5 %
		220	**100 %**

Table 14: Top priority raised by members at regional level in 2018

Members expectations for the future network are:

- Reinforce communication and awareness raising on agroecology to general public and policy makers
- Continue financing agroecology initiatives as there are limited call for proposal to support agroecology transition
- Maintain networking of people and organizations at national and regional levels
- Develop capacity building on agroecology practices and approaches to scale up the adoption of agroecology by farmers
- Develop capacity building on communication and IEC tools (Social media tools, website management, video production, case studies writing, video production)
- Increase documentation of agroecology case studies and publications
- Generate knowledge by documenting field evidence-based of successful agro-ecological practices of the area and provide meaningful inputs to the formulation of research studies.
- Facilitate public talks on the failure of conventional agriculture in environment, food safety and sustainability of farmers in the future.
- Organize provincial thematic workshop every year in target area of the project to facilitate collective learning process for contributing to the credibility, visibility and scaling up of agroecology
- Plan study tour gathering several stakeholders including ALiSEA members and mapping outstanding sites;

Members also expressed a shared will to maintain and develop governance modalities of the network. For instance, members mentioned the need to design a clear membership system including a list of criteria to become member, the process of submission and validation as well as including a welcoming introduction session

for new members in order to better know their area and thematic of intervention and so to foster synergies and potential collaboration.

Some organizations registered as members are not very active and other organizations not registered are really involved in ALiSEA activities. At the moment, there is no distinction of members or non-members for access to ALiSEA services and participation to events or General Assembly Meetings.

At the end of ACTAE project, the modalities of governance, finance and institutionalization of ALiSEA are not defined yet. Nevertheless, a reflexion and consultation process has been initiated with a core group in each county mainly regarding the structure and the governance mechanisms. It requires time to ensure a bottom-up approach and local ownership by members. Some first key governance elements of the future network have been described likely a democratic pattern, involvement of the members in decision process, transparency ensured by the General Assemblies. The regional dimension remains uncertain and could stay at an informal way. It should continue those discussions in order to study all aspects of the matter. There is also a need to review the charter, develop an internal rule as well as develop a common vision of agroecology and safe food system transition.

Conclusion and perspectives

The ACTAE project has produced a great deal of results both in the technical field for promoting, transmitting and evaluating new agronomic systems, and in the fields of sociology and politics on the understanding of socio-cultural and even historical mechanisms that promote change of practices. It also collected a multitude of testimonials on successful stories based on the adoption of new agro-ecological practices. **All this knowledge, already widely shared with the stakeholders, is the ferment of the future ASSET project and other initiatives that will work to develop agroecology**.

With the setup of **ALISEA network, gathering over 160 members' organizations** across six countries, **ACTAE helped creating a safe space for stakeholder** with different backgrounds in order to bring up stakeholders' concerns, **to stimulate innovations, to document successful initiatives and to leverage one another's expertise towards agroecology transition.**

ACTAE has enabled the emergence of an important community on agroecology, within ALiSEA and a strengthened CANSEA/ASEA network, around an open vision of agroecology, bringing together institutions from research, development, government agencies, civil society and farmer's organizations, academia and private sector across the entire region and beyond.

Through the mobilization of these networks, **connections with other projects and initiatives have been possible**, increasing the financial volume and skills for exploring local practices. New spaces and participatory tools have been built to develop and share knowledge that will inspire futures experiences.

ACTAE supported DALaM to develop the Laotian leadership in the **ASEAN process in support of agro-ecological agricultural policies (LICA)**. This initiative validated at the highest political level is about to enter in its operational phase.

Training initiatives on agroecology have emerged or been reinforced in Cambodia: **the Bos Khnor Center** offers a showcase on conservation agriculture to the entire community interested in Agroecology. **The new LMS platform** will provide open access to training modules on agroecology for students and teachers. They are both called to become regional with new investments.

The ACTAE project also trained students from university and produced scientific articles. This contributes to the strengthening of the scientific community by acquiring knowledge useful for the implementation of innovations contributing to the agro-ecological transition.

Participatory methods and tools have been developed to help producers, breeder and technical services understand the effects of practices used or to mobilize and value local knowledge. **New indicators of soil health assessment were also identified**. These technical results will always be useful to facilitate the change of practices.

Farming communities have learned to produce their own seeds. This is all the more important as there is no seed market in the region especially for cover crops. The use of underutilized plants has been promoted. **These communities will be able to transmit their knowledge to others and thus promote the use of cover crops in conservation agriculture.**

Several actions have promoted organic vegetables through customer engagement in **Participatory Guarantee Systems (PGS)**.

Many technical advances have been demonstrated and / or communicated directly to the beneficiaries as well as many successful stories that are as many examples to follow to **promote new agro-ecological practices.**

Several communication instruments have been created to reach agroecology stakeholders such as an attractive and user-friendly website including online library and mapping, social media and newsletter.

Through numerous workshops organized in the country of the sub-region, **ACTAE has also contributed to increasing the visibility and understanding of agroecology.**

ALiSEA aims to connect people, share innovations and discuss issues encountered at multiple levels. **Considering the rapid growth of ALiSEA network and seek to improve the strategies to dissemination information, ALiSEA website transformation into a knowledge hub would make it a major resource data platform for the Mekong region.**

ALiSEA feature is to value a diversity of practices, experiences and transition speeds of its members as well as to promote a comprehensive approach about agroecology transition. **The alliance will continue its effort of inclusiveness and representativeness of the diversity of stakeholders notably towards government bodies, private sector and farmers organizations in agriculture and food systems.**

By initiating a consultation and reflexion process about the structuring and governance of ALiSEA, members have raised their motivation and interest to involve in shaping the network and being part of the decision-making bodies. The national general assembly and the endorsement of one charter at regional level are first key elements of ALiSEA governance. Efforts need to be pursued regarding the collective definition of finance and institutionalization modalities.

The support to ALiSEA and ASEA regional networks focusing on knowledge exchange and experiences sharing from different regions has appeared to be relevant in promoting agro-ecological transition and answering stakeholders' needs.

ACTAE is also the forerunner of the future ASSET project (Agroecology and safe food system transitions) funded by AFD and the EU.

ASSET project will allow materializing the local ownership of the ALiSEA network in order to switch progressively from a project-driven network to a members-driven network. In addition, the legal formalization is also important for credibility and financial perpetuation.

Fostering national dynamic and bottom-up approach is crucial to take into account the specificities of the national contexts.

The ASSET project will also be supported by the national consortium on sustainable intensification based on conservation agriculture (CASIC), which will be launched in Cambodia at the end of 2019. This consortium, bringing together the main political actors, research, the private sector and universities, will be a bridgehead to facilitate synergies between initiatives.

Over time, ACTAE has established lasting, strong and trusting relationships between CIRAD and GRET. Together, they will be able to mobilize their partners to implement actions aiming at the development of agroecology in South East Asia.

With a substantial budget granted by the European Union and AFD (€ 12 million), the ASSET project will support technical, socio-economic studies and political actions to increase the agro-ecological transition in the countries of the Mekong region. It will play a key role in achieving the advances expected to increase positives impacts of Agroecology on food security and sustainable development in the region, so severely affected by past wars and currently by climatic disasters.

Annexes

ANNEX 1: ACTAE LOGICAL FRAME (ACTAE FEASIBILITY STUDY, J.C. CASTELLA, J.F. KIBLER, 2013)

Overall objective	Build durable and effective mechanisms to facilitate synergies among initiatives contributing to an agro-ecological transition in South East Asia. Agro-ecology approaches aim at strengthening innovation capacity of family farms, as well as the recognition of their contribution to food sovereignty in the region. The project will increase the credibility and visibility of agro-ecology practice to all small-holder.
Specific objective	SO1. Strengthen and institutionalize the existing thematic conservation agriculture network in South East Asia - **CANSEA** - in its function of promoting CA effective adoption, notably through involving a wider spectrum of stakeholders, building alliances with agro-ecological movement, and diversifying funding sources.
	SO2. Promote the emergence of a new regional agro-ecological learning alliance in South East Asia - **ALiSEA** -, aiming at strengthening knowledge and experience sharing among agro-ecological initiatives and actors, at increasing the visibility and the credibility of agro-ecological movement towards policy makers and consumers, and at scaling up the development and adoption of agro-ecological practice among farmers.
Expected results	R1.1. CANSEA has a wider and more diversified membership and a consolidated governance and management
	R1.2. CANSEA is able to sustainably promote and synergize projects at national and regional level, which implement research / development on conservation agriculture practices, and which contribute to scaling up their adoption by small holder farmers and policy makers
	R1.3. CANSEA has built long term partnerships at ASEAN level providing political and financial support to the network and its members.
	R1.4. CANSEA is active member of the new regional agro-ecological learning alliance - ALiSEA.
	R2.1. A data base on agro-ecological practices, experiences and network in the 6 countries is publicly available and regularly updated
	R2.2. Agro-ecological practices and experiences are evaluated and documented (case studies) by teams of scientists and development practitioners, and the conditions for scaling-up their adoption by small holder farmers are characterized
	R2.3. The unifying concept of "agro-ecological transition" starts being understood and recognized by small holders farmers, consumers and policy makers
	R2.4. The conditions are set up for ALiSEA to become an effective and recognized regional "agro-ecological learning alliance", providing useful services to their members and to the agro-ecological movement as a whole.
	R2.5. The modalities of governance, finance and institutionalization of ALiSEA are defined
Activities	A1.1.a. Ensure provision of services to CANSEA members: scientific support, experience and knowledge sharing, training
	A1.1.b. Organize annual Steering Committee meetings
	A1.2.a. Set up and implement a "Competitive Grant Scheme" for promoting R&D projects with strong multi-stakeholders' involvement and training component
	A1.2.b. Provide necessary support to existing research platforms in order to ensure lasting impact of CA practices on ecosystem services and farmers livelihoods
	A1.3. Lobbying for partnership and prepare long term bankable projects for CANSEA and its members
	A1.4. Actively participate to the process of building ALiSEA
	A2.1.a. Build an attractive and user friendly website ALiSEA, and regularly feed him with : daily news on agro-ecology, public minutes of workshops, studies carried out, data base on agro-ecology, virtual library... and an exchange forum.
	A2.1.b. Conduct studies for mapping agro-ecological practices, experiences and networks in the 6 countries, including geographical and quantified data
	A2.2.a. Organize joined evaluations of agro-ecological practices and experiences (case studies), with analysis of the conditions for scaling-up
	A2.2.b. Attract and stimulate scientific research to document and compare parameters, expected results and condition of success for diverse agroecological cropping system
	A2.3. Organize national and regional multi-stakeholders' workshops for sharing experience, bridging gaps, stimulating synergies and building a common concept of "agro-ecological transition", and ensure media coverage.
	A2.4. Set up and implement a "Small Grant Fund' for co-funding activities aiming at linking stakeholders, sharing experience, documenting case studies, building innovative concepts…
	A2.5.a. Set up a board of experts in each country and at the regional level, which will be involved in selection & evaluation of SGF projects
	A2.5.b. Support national secretariats hosted by existing partners in each country
	A2.5.c. Support the organization of national and regional "General Assembly Meetings" for shaping governance, finance and management model of ALiSEA.

ANNEX 2: LIST OF SMALL GRANTS FUNDED BY ACTAE

CANSEA Grant Title	Acronym	Lead partner
Documenting local tree knowledge and developing a decision-support tool to improve resilience of agroforestry systems in mountainous areas of Laos and Vietnam	AFS-Tool Kit	CIRAD
Agrarian dynamics in Laos and Cambodia, socio-economic & environmental impacts	Agrarian	CIRAD
ACP-ACTAE Project Agro-ecological Management Crop Protection	AMCP	CIRAD
Strengthening Poa Technical Service Center (TSC) in Laos	Ban Poa	DALaM
Support to the activities implemented by the Conservation Agriculture Service Center (CASC) in the Bos Khnor experimental Station	Bos Khnor Station/CASC	CIRAD
Promoting agroecology transition via enhancing farmers' analytical and decision making capacity through application of TerriStories simulation games	CISDOMA	CISDOMA
Sharing Agro-ecological knowledge through E-learning	E-Learning	CIRAD
Farmer Participatory approach on soil and water conservation practices leading to environmentally sustainable agriculture - Case study: Inle Lake Watershed area	FCA-INLE	DOA-MOALI
Functional IndicatoR of Soil ecosysTems: investing in SMART tools to assess soil biological functioning	FIRST	CIRAD
Soybean cropping systems in South East Asia: Assessment of rhizobial inoculant quality and effect of management practices on the associated soil microbial populations	INOCSOJ	CIRAD
Do Legume-based intercrops concurrently halt soil erosion, boost soil health and strengthen (natural) pest control services in cassava cropping systems in Northern Vietnam?	LEGINCROP	CIRAD
Supporting regional upraising on agroecology: the LICA initiative process	LICA	CIRAD
Training on project conception	Project design	CIRAD
Promote Conservation Agriculture in the northern mountainous region of Vietnam through maintaining and out-scaling existing farmers' networks and reference sites previously established by ADAM project	NOMAFSI	NOMAFSI
Study on market opportunities for mung bean in the Lao PDR	NUS	NUOL
Disseminating underutilized species and cover/relay crops as a foundation of resilient farming systems	PROMOCROP	DALaM
"Cross-countries training: introduction to the use of simulation games for the participatory design of contextualized agroecology scenarios with farmers"	Simulation games	CIRAD
Enhancing Soil functional diversity of Rice fields	SOFUNRICE	CIRAD
Soil: Testing the impact of Organic amendments for the benefit of marKet gardening farmers	STOCK	NUOL
Trade-off and synergies of integrating intensive livestock production with agroecology in Mountainous regions	TAG	CIRAD
Supporting the transition towards agro-ecological practices: collective land and cattle management around the Tonle Sap, Cambodia	TONLE SAP	CIRAD

ALiSEA Grant Title	Country	Lead partner
2016		
Bridging Agriculture to Ecology Conservation Among Indigenous People Communities in Mondolkiri Province	Cambodia	MIPAD
Promoting Organic Vegetables through Customer Engagement in Participatory Guarantee Systems	Cambodia	NAV
Evaluation of Impacts of Integrated Agriculture on Local People's Livelihood and Environment	Laos	ARMI
Developing of Teaching & Learning Material in Agroecology in the Lao PDR	Laos	Faculty of Agriculture NUOL
Increasing incomes of Organic farmers through insect-based bio-conversion of brewery wastes into animal feed and Bio-fertilizers in Rural Communities	Laos	WASECO & GCDA
Upland Value Chains and Climate Change Adaptation in Taungyoe Ethnic Communities	Myanmar	MIID
Improvement of Organic PGS Certification Awareness	Myanmar	MOGPA
Easy Gardens	Myanmar	Partenaires
Conservation of the floating rice –based agro-ecological farming systems in the Mekong Delta	Vietnam	RCRD
Recycling of rice plant residues for enriching lands with organic matters and in-time cultivation of next crop	Vietnam	NOMAFSI
Promotion of indigenous knowledge-based climate change resilient and organic farming practices in the northern mountainous region of Vietnam	Vietnam	ADC
University-based Farmer Extension Services for Agro-ecological Transitions in Southeast Asia: Research Facilitation, Regional Symposium and Publication	Regional	UNESCO
2017		
Developing innovative business model for Agricultural Cooperative to produce and collectively supply natural fertilizer to local producers	Cambodia	Aide au Développement Gembloux (ADG)
Promoting Agro-ecological related Skills Among Local Community and Key Actors	Cambodia	Ockenden
Economic, Health and Ecological Benefits through Application of Net House and Organic Fertilizer in Vegetable Production	Cambodia	Royal University of Agriculture (RUA) & Svay Rieng University (SRU)
Khmer Online Meta-Network Agro-ecological Training (KOMNAET)	Cambodia	Vivre de sa Terre
Identifying Barriers in the Adoption of Agro-ecological Practices in Rural Laos	Laos	Huam Jai Asasamak Association (HJA)
Promoting agroecology farming for self-reliant livelihood of local upland farmers through documenting the case of native eco-vegetables of the Hmong community of Long Lan village	Laos	Social Policy Ecology Research Institute (SPERI)
Agro-ecology for resilient and sustainable livelihoods of natural disaster affected groups: Co-evaluation and research in development with smallholders of Tonzang, Tedim and Kale townships in north-western Myanmar	Myanmar	Chalmers University of Technology
Saving seeds, securing biodiversity, and sustaining rural livelihoods in the Irrawaddy Delta	Myanmar	ECHO Asia – Asia Regional Impact Center
Ecosystem approach for drought resistant home gardening in Central Dy Zone	Myanmar	Terres des Hommes (TdH)

Sharing experience and replication of agri model adapted to Climate Change for women	Vietnam	Research Centre for Gender, Family and Environment in Development (CGFED)
Promoting agroecology transition via enhancing farmers' analytical and decision-making capacity through application of simulation games	Vietnam	The Consultative Institute for Socio Economic Development of Rural and Mountainous Areas (CISDOMA)
Adaptive Research on Rice/Potato Rotation Model (applying SRI for rice and minimum tillage method for potato) in Paddy Land of Phu Binh district, Thai Nguyen	Vietnam	The International Cooperation Center (ICC) – Thai Nguyen University
Capitalization of Participatory Guarantee System experiences in Vietnam for upscaling & institutionalization	Vietnam	VECO Vietnam
Young Organic Farmers: The Journey of Hope	Regional	Towards Organic Asia & School of Wellbeing Studies and Research

ANNEX 3: ACTAE MANAGEMENT ACHIEVEMENTS

Project management achievements	Year	Contractor / Authors	Contractor / Beneficiaries
List of contractual documents produced for the implementation of the ACTAE project			
Contract: Financing Agreement N°. CZZ1835.01.E signed on 27 May 2015	2015	AFD Pascal Pacaut	CIRAD Dr. Michel Eddi, CIRAD PDG
Contrat de maîtrise d'ouvrage déléguée signed on 29 July 2015	2015	CIRAD François Cote, Director of PERSYST Department	GRET Marie-Odile Cardera
Specific Memorandum of Understanding (SMOU) Between DALaM and CIRAD For the Implementation of the ACTAE Regional Project in Support of Agro-ecological Transition in Southeast Asia,signed on 11th July 2016	2016	CIRAD Dr. Michel Eddi, CIRAD PDG	DALaM / MAF Khamphone Rasachack, DALaM PDG
Contract Signed on 9 May 2016 for the implementation of the small grant "NOMAFSI"	2016	ACTAE Franck Enjalric	NOMAFSI Luu Ngoc Guyen
Letter of Order with Dr. Patrick D'AQUINO for the implementation of the small grant "Simulation games"	2016	ACTAE Philippe Cao Van	CIRAD Patrick D'Aquino
Letter of Order for the implementation of the small grant "Agrarian"	2016	ACTAE Philippe Cao Van	CIRAD Florent Tivet
Letter of Order for the implementation of the small grant "CASC"	2016	ACTAE Philippe Cao Van	CIRAD Florent Tivet
Letter of Order for the implementation of the small grant "AMCP"	2016	ACTAE Philippe Cao Van	CIRAD Jean Philippe Deguine
Scientific Collaboration Agreement for the implementation of the small grant "CASC "	2016	CIRAD p.o. Florent Tivet	DALARM / MAF p.o. Dr. Koy Ra
Scientific Collaboration Agreement for the implementation of the small grant "Agrarian"	2016	CIRAD p.o. Florent Tivet	DALARM / MAF p.o. Dr. Koy Ra
Scientific Collaboration Agreement for the implementation of the small grant "FIRST"	2016	CIRAD p.o. Florent Tivet	DALARM / MAF p.o. Dr. Koy Ra IRD-Ecosol DALAM, DG
Contract for the implementation of the small grant "FCA - INLE" Signed on 02 May 2017	2017	ACTAE Philippe Cao Van	DOA-LUD DOA-MOALI Soe Win, Director, Land Use Division
Contract for Signed on 01st March 2017 for the implementation of the small grant "PROMOCROP"	2017	ACTAE Philippe Cao Van	DALaM / MAF Khamphone Rasachack, DALaM PDG

Contract for the implementation of the small grant "STOCK"	2017	ACTAE Philippe Cao Van	NUOL Asso. Prof. Fonsamouth Southammavong Dean of Faculty of Agriculture
Contract for the implementation of the small grant "BAN POA", signed on 1st March 2017	2017	ACTAE Philippe Cao Van	DALaM / MAF Khamphone Rasachack, DALaM PDG
Letter of Order for the implementation of the small grant "TAG" signed on 9 May 2017	2017	ACTAE Philippe Cao Van	CIRAD Dr. Mélanie Blanchard
Letter of Order for the implementation of the small grant LEGINCROP, signed on 13 March 2017	2017	ACTAE Philippe Cao Van	CIRAD Didier Lesueur
Letter of Order for the implementation of the small grant "AFS TOOL KIT" signed on 12 December 2017	2017	ACTAE Philippe Cao Van	CIRAD Philippe Vaast
Letter of Order for the implementation of the small grant "FIRST" Signed on 3 February 2017	2017	ACTAE Philippe Cao Van	CIRAD Pascal Lienard
Letter of Order for the implementation of the small grant "CASC" Signed on 2 November 2017	2017	ACTAE Philippe Cao Van	CIRAD Florent Tivet
Scientific Collaboration Agreement	2017	CIRAD Po Philippe Cao Van	MOALI Dr. Ye Tint Tun, DG
Scientific Collaboration Agreement for the implementation of the small grant "TAG" Signed on 24 May 2017	2017	CIRAD Alexandre Ickowicz SELMET Research Unit Director	NIAS Prof. Vu Chi Cuong Vice General Director EFICAS Project Pascal Lienhard, CTA
Scientific Collaboration Agreement for the implementation of the small grant "LEGINCROP"	2017	CIRAD Jean Luc Chotte EcoEsol Research Unit Director	CIAT Asia Campilan Dindo, Director NOMAFSI Dr. Luu Ngoc Quyen, Deputy Director General
Scientific Collaboration Agreement for the implementation of the small grant "PROMOCROP" signed on 3 April 2017	2017	CIRAD Dr. Florent Tivet Dr. Pascal Lienhard	DALaM Mr. Khamphone Rasachack, DG DALaM CASC Dr. Roy Ra, Director
Scientific Collaboration Agreement for the implementation of the small grant "AMCP" signed on 6 March 2017	2017	CIRAD Dr. Bernard Reynaud, PVBMT Research Unit Director	SOFRI Dr. Nguyen Van Hoa, Director
Scientific Collaboration Agreement for the implementation of the small grant "AMCP" signed on 16 February 2017	2017	CIRAD Dr. Bernard Reynaud, PVBMT Research Unit Director	PPRI Nguyen Van Liem
Scientific Collaboration Agreement for the implementation of the small grant "AMCP"	2017	CIRAD Dr. Bernard Reynaud,	IFAM Nguyen Minh Châu

		PVBMT Research Unit Director	
Scientific Collaboration Agreement for the implementation of the small grant "AMCP" signed on 15 February 2017	2017	CIRAD Dr. Bernard Reynaud, PVBMT Research Unit Director	SFRI Tran Minh Tien, Deputy Director General
Scientific Collaboration Agreement for the implementation of the small grant "AMCP" signed on 15 February 2017	2017	CIRAD Dr. Bernard Reynaud, PVBMT Research Unit Director	NOMAFSI Dr. Luu Ngoc Quyen, Deputy Director General
Scientific Collaboration Agreement for the implementation of the small grant "AMCP" signed on 1 March 2017	2017	CIRAD Dr. Bernard Reynaud, PVBMT Research Unit Director	Can Tho University Dr. Le Van Vang, Vice Dean
Scientific Collaboration Agreement for the implementation of the small grant "AMCP" signed on 16 February 2017	2017	CIRAD Dr. Bernard Reynaud, PVBMT Research Unit Director	CABEP Prof. Dr. Pham Thi Thuy, Director
Scientific Collaboration Agreement for the implementation of the small grant "STOCK"	2017	IRD Dr Christian HARTMANN Senior Researcher	NUOL Prof. Dr Fongsamouth SOUTHAM MAVONG Dean of the Faculty of Agriculture DALaM Dr Nivong SIPASEUTH Deputy Director
Addendum to the Funding Contract for the implementation of the small grant "NOMAFSI" signed on 12 November 2017	2017	ACTAE Philippe Cao Van	NOMAFSI Luu Ngoc Guyen
Addendum to the Financing Agreement N°. CZZ1835.01.E signed on 30 October 2017	2017	CIRAD Michel Eddi, PDG	AFD Françoise Chalier, Directrice adjointe du Département Asie
Contract for Financial and Accounting Auditing services signed on 2 January 2018	2018	ACTAE Philippe Cao Van	Asia Pacific Accounting and Audit Seruices Sole Go,. Ltd Mr. Ounheuane Amkhavanh, Managing Director
Contract for the implementation of the Small grant "CISDOMA" signed on 5 February 2018	2018	ACTAE Philippe Cao Van	CISDOMA Truong Quoc Can, Director
Contract for the implementation of the Small grant "NUS" signed on 22 June 2018	2018	ACTAE Philippe Cao Van	NUOL Asso. Prof. Fonsamouth Southammavong Dean of Faculty of Agriculture
Letter of Order for the implementation of the small grant "SOFUNRICE" signed on 29 January 2018	2018	ACTAE Philippe Cao Van	CIRAD Florent Tivet, UPR AIDA

Letter of Order for the implementation of the small grant "TONLE SAP" signed on 22 January 2018	2018	ACTAE Philippe Cao Van	CIRAD Nicolas Faysse, UMR G-Eau
Letter of Order for the implementation of the small grant "TONLE SAP" signed on 03 January 2018	2018	ACTAE Philippe Cao Van	CIRAD Florent Tivet, UPR AIDA
Letter of Order for the implementation of the small grant "INOCSOJ" signed on 29 January 2018	2018	ACTAE Philippe Cao Van	CIRAD Didier Lesueur, UMR Eco&Sol
Scientific Collaboration Agreement for the implementation of the small grant "INOCSOJ" signed on 2 February 2018	2018	CIRAD UPR AIDA Florent Tivet	CIRAD - UMR Eco&Sol Didier Lesueur UPR AIDA Pascal Lienhard
Scientific Collaboration Agreement for the implementation of the small grant "TONLE SAP" signed on 12 January 2018	2018	CIRAD UPR AIDA Florent Tivet	CIRAD - UMR G-EAU Nicolas Faysse AVSF Sophoan Min
Scientific Collaboration Agreement for the implementation of the small grant "AFS Tool KIT" signed on 18 January 2018	2018	CIRAD UMR Eco&Sol Philippe Vaast	CPC Mr. Sayakone Onnaly ICRAF Dr. Celia Catacutan NOMAFSI Dr. Luu Ngoc Quyen
Addendum to the Funding Contract for the implementation of the small grant "TAG" signed on 24 January 2018	2018	ACTAE Philippe Cao Van	CIRAD - UMR SELMET Mélanie Blanchard for the Director
Addendum N°1 to the Funding Contract for the implementation of the small grant "PROMOCROP" signed on 24 January 2018	2018	ACTAE Philippe Cao Van	CIRAD - UPR AIDA Florent Tivet
Addendum N°1 au Contrat de Maitrise d'ouvrage délégué signed on 22 January 2018	2018	CIRAD François-Xavier Côte, PERSYST Department Director	GRET Olivier Bruyeron, DG
Addendum N° 1 to the Specific Memorandum of Understanding (SMoU), signed on the 11th of July 2016, signed on 31/12/2018	2018	CIRAD Michel Eddi, PDG	DALaM Khamphone Rasachack, DG
Addendum to the Letter of Order to Dr. JP Deguine for the implementation of the small grant "AMCP" signed on 15 January 2018	2018	ACTAE Philippe Cao Van	CIRAD - UMR PVBMT
Letter of order for the implementation of the small grant "CASC" signed on 11 June 2019	2019	ACTAE Catherine Marquié	CIRAD - UPR AIDA Florent Tivet
Letter of order for the implementation of the small grant LICA signed on 23 April 2019	2019	ACTAE Catherine Marquié	DALaM Mr. Khamphone Rasachack, DG DALaM CASC Dr. Roy Ra, Director
Addendum N°2 to the Financing Agreement N° CZZ1835.01.E signed on 26 February 2019	2019	CIRAD Jean Paul Laclau, Persyst	AFD Rémi Genevey Directeur du Département

		Department Director	Orient (s)
Addendum N°2 au Contrat de Maîtrise d'Ouvrage Déléguée signed on 5 April 2019	2019	CIRAD Philippe Girard, DR pour l'Asie du Dud-Est continentale	GRET Mr. Arnaud Vontobel, représentant du GRET au Laos
Addendum N° 2 to the Specific Memorandum of Understanding (SMoU), signed on the 11th of July 2016, signed on 5 April 2019	2019	CIRAD Philippe Girard, DR pour l'Asie du Dud-Est continentale	DALaM Mr. Khamphone Rasachack, DG
Addendum N° 1 to the Contract for financing and accounting auditing services, signed on 13 September 2019	2019	ACTAE Catherine Marquié	APAS Mr. Ounheuane Amkhavanh Managing Director
AUDIT			
Statement of the Proiect Management and Audited Financial Statement for the Period from 1 January 2015 to 30 April 2017, 29 January 2018	2018	Asia Pacific Accounting and Audit Services Sole Co; Ltd Ounheuane Amkhavanh	AFD CIRAD
Statement of the Proiect Management and Audited Financial Statement for the Period from 1 May 2017 to 30 October 2019	2019	Asia Pacific Accounting and Audit Services Sole Co; Ltd Ounheuane Amkhavanh	AFD CIRAD
Contractual technical and financial reports			
Interim narrative and financial reports N°1 January 2015 - October 2015	2015	Philippe Cao Van Marie Rose Vezian Franc Enjalric Pierre Ferrand	AFD
Interim narrative and financial reports N° 2 November 2015 - April 2016	2016	Philippe Cao Van Marie Rose Vezian Franc Enjalric Pierre Ferrand	AFD
Interim narrative and financial reports N° 3 May 2016 - October 2016	2016	Philippe Cao Van Marie Rose Vezian Franc Enjalric Pierre Ferrand	AFD
Interim narrative and financial reports N° 4 November 2016 - April 2017	2017	Philippe Cao Van Marie Rose Vezian Pierre Ferrand	AFD
Interim narrative and financial reports N° 5 May 2017 - October 2017	2017	Philippe Cao Van Marie Rose Vezian Pierre Ferrand	AFD
Interim narrative and financial reports N° 6 November 2017 - April 2018	2018	Philippe Cao Van Marie Rose Vezian Pierre Ferrand	AFD
Interim narrative and financial	2018	Catherine	AFD

reports N° 7 May 2018 - November 2018		Marquié Marie Rose Vezian Pierre Ferrand	
Interim narrative and financial reports N° 8 December 2018 - June 2019	2019	Catherine Marquié Marie Rose Vezian Lucie Reynaud	AFD
Final narrative and financial reports 2015 - 2019	2019	Catherine Marquié Lucie Reynaud Marie Rose Vezian	AFD
Activity reports on the ACTAE project carried out within the framework of the SMOU between DALaM and CIRAD			
ACTAE – CIRAD: Report of activities in Laos for the year 2017, 19 pages	2017	Philippe Cao Van	DALaM / MAF
Coordination and R&D activity report of the ACTAE regional project carried out in Lao PDR (2015 – 2019), January 2019, 21 pages	2019	Catherine Marquié	DALaM / MAF
Conferences jointly organized by CANSEA and ALiSEA components			
ACTAE Inception Workshop Proceedings of the National Workshop on Agro-ecological Transition 30th and 31st March 2016, Phnom Penh, Cambodia	2016	Pierre Ferrand Philippe Cao Van	CANSEA and ALiSEA partners
ACTAE Inception Workshop Proceedings of the National Workshop on Agroecology Transition 7th and 8th March 2016, Yangon, Myanmar	2016	Pierre Ferrand Philippe Cao Van	CANSEA and ALiSEA partners
ACTAE Inception Workshop Proceedings of the National Workshop on Agroecology Transition 2nd and 3rd June 2016, Vientiane, Lao PDR	2016	Pierre Ferrand Philippe Cao Van	CANSEA and ALiSEA partners
ACTAE Inception Workshop Proceedings of the National Workshop on Agroecology Transition 5th and 6th May 2016, Hanoi, Vietnam	2016	Pierre Ferrand Philippe Cao Van	CANSEA and ALiSEA partners
Towards a regional initiative to develop E-learning resources in Agroecology, Phnom Penh, Cambodia, 11th of October 2017 Cambodiana Hotel	2017	Florent Tivet Pierre Ferrand	CANSEA and ALiSEA partners
Final conference of ACTAE Proceeding Agroecology Futures Regional Forum Hotel Apsara Resort, Siem Reap, Cambodia	2018	Catherine Marquié Pierre Ferrand Florent Tivet Lucie Reynaud	Agroecology community

6th – 8th of November 2018			
Research for development (R4D) for agroecological transition in South-East Asia Hotel Khemara Battambang, Cambodia, 23rd to 24th April 2018	2018	Catherine Marquié Florent Tivet Philippe Girard Pierre Ferrand	Agroecology community
Research for development (R4D) support to the agroecology transition in Southeast Asia, R4D - ACTAE 2 Meeting, 28 January 2019, Vic Bangkok Hotel, Thailand	2019	Catherine Marquié Marion Tréboux (IRAM) Jean Marie Brun (IRAM)	ACTAE partners AFD, NGO IRAM, GRET, Private sector
"Moving forward with ASSET: Agroecology and Safe Food System Transitions in South-East Asia", New Rose Boutique Hotel, Vientiane, 11-12 June 2019	2019	Catherine Marquié Lucie Reynaud	ACTAE Partners, NGO, AFD, GRET, CIRAD, Private sector
ACTAE Management Meetings			
First ACTAE Steering Committee Lao National Institute of Tourism Hospitality (LANITH), Vientiane, Lao PDR 12th December 2016	2016	CIRAD Philippe CaoVan	**CIRAD**: Philippe Girard, Frank Enjalric, **AFD**: Matthieu Bommier, Morgane Cournarie **GRET**: Arnaud Vontobel, Pierre Ferrand **MAF**: Xaypladeth Choulamany, Bui Quang Dang (Vietnam), Koy Ra (Cambodia), Win Win New (Myanmar), Nivong Sipaseuth (Lao PDR), Robert Brown (ACTAE communication)
Second Steering Committee Cambodiana Hotel Phnom Penh – Cambodia, 10th of October 2017	2017	CIRAD Philippe CaoVan	**CIRAD** : Philippe Girard, Florent Tivet, Parick D'Aquino **AFD** : Philippe Steinmetz, Morgane Cournarie, Marie Grovel **GRET** : Chanty Meas, Pierre Ferrand Bui Quang Dang (Vietnam), Koy Ra (Cambodia), Win Win New (Myanmar), Nivong Sisapeuth (Lao PDR)
Third Steering Committee New Rose Boutique Hotel Vientiane, Lao PDR 8th of October 2019	2019	CIRAD Catherine Marquié	**CIRAD**: Patrick D'Aquino **AFD**: Matthieu Bommier, Aurore Ungerer, **GRET**: Lucie Reynaud, Arnaud Vontobel, Ms Hongnapha Phommabouth **DALaM**: Nivong Sipaseuth, Thatheva Saphangthong, Phetsakhone Soulygnalath **DOPLA** : Somxay Sisanonh **DOPF**: Phommy Inthichack VAAS : Ngo Duc Minh DALRM/GDA : Am Phirum

1st Meeting of the Management Unit for ACTAE-SMOU in LAO PDR AFD office **Vientiane, Lao PDR** **21st of September 2017**	2017	CIRAD Philippe CaoVan	**CIRAD**: Patrick D'Aquino, Pascal Lienhard **AFD**: Morgane Cournarie **GRET**: Pierre Ferrand **DALaM**: Thisadee Chounlamountry, Nolin Siliphouthone, Thipphaphone Douangsila, Nivong Sipaseuth **NUOL**: Phimmasone Sisouvanh
Second ACTAE Management Unit Meeting **INCAFELAOS / Coffee In / Co working space** **Vientiane, Lao PDR** **25 May 2018**	2018	CIRAD Philippe CaoVan	**CIRAD**: Patrick D'Aquino **AFD**: Morgane Cournarie, Aurore Ungerer **GRET**: Pierre Ferrand **DALaM**: Thisadee Chounlamountry, Thipphaphone Duongsila
Third ACTAE Management Meeting **Crowne Plaza hotel** **Vientiane, Lao PDR** **05 April 2019**	2019	CIRAD Catherine Marquié	**CIRAD**: Philippe Girard, Florent Tivet, Hoa Tran Quoc **AFD**: Matthieu Bommier, Aurore Ungerer **GRET**: Arnaud Vontobel, Lucie Reynaud **DALaM** : Khamphone Rasachack, Dr. Thatheva Sapaangthong, Dr. Nivong Sipaseuth, Ms Tripphaphone Duongsila, Ms Sisomphone Boutsengngam, Mr Thongsavan Keonakhone, Mr. Phetsakhone Soulygnalath, Mr Bounma, Mr Soulikon Chaivonna **DOPF**: Dr Phommy Inthichack **DOPLA**: Mr King Keo **IRD** : Dr. Jean Christophe Castella
Promotion of the ACTAE Project			
ACTAE Towards an agro-ecological transition in South East Asia Leaflet, 4 pages, Ed. Cirad, November 2015	2015	Philippe CaoVan Pierre Ferrand	Agroecology community
Towards an agro-ecological transition in South East Asia ACTAE project: brief overview of main achievements, Ed. Cirad, November 2018	2018	Catherine Marquié Pierre Ferrand Florent Tivet	Agroecology community

ANNEX 4: GUIDELINES FOR THE SELECTION OF ACTAE-CANSEA GRANTS

ACTAE Regional project
Procedure summary for Grant's implementation

1. Topics and objectives

The ACTAE regional project aims at promoting sustainable agriculture based on agroecology principles and practices in GMS - countries: mainly Cambodia, Laos, Myanmar and Vietnam.

The **overall objective** of ACTAE project is to build durable and effective mechanisms to facilitate synergies among initiatives contributing to an agro-ecological transition in South East Asia. The project will assist the actors of agroecology in the region in increasing their visibility and impacts by supporting the development of synergies between all operators in the sector: farmers, development agencies, private companies, donors, policy makers, etc. It will also aim at increasing the visibility of agro-ecological movement towards policy makers and consumers.

The two proposed institutions, CIRAD and GRET, have complementary approaches (scientific research for CIRAD and research/development for GRET) and are in charge of two specific objectives according to the experience and specificities.

- **CIRAD** to strengthen and institutionalize the existing **conservation agriculture network in South East Asia (CANSEA),** in its function of promoting CA and AE effective adoption.
- **GRET** to promote the emergence of a new regional **agro-ecological learning initiative in South East Asia – ALiSEA,** aiming at strengthening knowledge and experience sharing among agro-ecological initiatives and actors.

2. Activities

Both CIRAD and GRET will support set up of national task force on CA and AE based on previous network (CANSEA) and new initiative.
The main activities will be to support training and dissemination activities, to implement studies for mapping agro-ecological practices, experiences and networks and to organize evaluations of agro-ecological practices and experiences.

Among the means and methodologies to be implemented:
In one hand **CIRAD** will namely coordinate the project and set up and implement a "Competitive Grant Scheme" for supporting R&D projects from the four countries with strong multi-stakeholders' involvement and training component based on proposals and selection committee. These grants should be considered as i) potential co-fund for larger project or action, ii) as leverage to attract further funding or partners, iii) means to reinforce or strengthen existing activity, or site.

The grants are aimed to support both the maintenance of existing CA/AE sites at regional level (e.g. Ban Poa in Xieng Kouang province – Lao PDR) and the activities proposed through competitive calls which will take in account thematic such as:

- Studies on agrarian dynamics and impacts of CA on livelihood;
- Studies on soil fertility management at a large range from the plot to the farm, to the watershed and the territory;

- Training (university level / extension staffs and farmers) aimed at CA & AE dissemination, including demonstration and training sites;
- Biomass management and agro-ecological crop protection;
- Phyto-genetic resources management and primary production (cover plants and food crops germplasm conservation and production) in accordance with a sustainable program;
- Mechanization and technical guidelines adapted to agroecology based cropping systems;
- Indicators of farm and cropping systems' performance based on bio-physics, environmental and socioeconomic parameters;
- Supporting methodologies aimed at promoting agroecology based innovation to farmers and agricultural development policy. The establishment of task force or advisory boards aimed at promoting and lobbying could be included.

In the other hand, **GRET** will organize national and regional multi-stakeholders' workshops for sharing experience, bridging gaps, stimulating synergies and building a common concept of "agro-ecological transition", and set up and implement a "Small Grant Fund" for supporting activities aiming at promoting stakeholders initiatives for:

- Sharing experiences (e.g.: field visits, training sessions…),
- Documenting case studies (e.g.: crossed evaluations…),
- Testing new practices (e.g.: a group of farmers willing to experiment new agriculture practices…),
- Disseminating success-stories (e.g.: video…).

3. Tenders and proposals process

a) A list of proposed topics will be transmitted to the CANSEA members. As for ALiSEA, priority issues will be identified by the stakeholders in the different countries.

b) The funds available are limited and each grant awarded will range from 25 to 35 000 USD for CANSEA CIRAD managed Grants and from 8 to 12 000 USD for ALiSEA GRET managed small grants.

c) The interested members will submit their proposals in accordance with the proposed topics (hereinabove).

   The proposals should present the requested information as following (a template will be provided):
   - A summary,
   - Description of the proposal with i) context, ii) objective, iii) activities description, iv) partnerships, the proposal should involve different institutions and organisms in accordance with their field of expertise and objectives of the proposals, v) planning and duration, vi) global and detailed budgets.

d) Selection of the proposal

   The proposals will be selected by a special committee involving the implementing agencies and countries representatives. This committee will work either by mails, either by

meeting, first at a national level, than at the regional level to insure coherency and complementarity between action and partners.

Because one of the overall objective is to enhance exchange and synergies between stakeholders, proposals presented by several stakeholders, at least two including one member, will be appreciated. It is definitively important to stimulate joint / synergetic actions.

An important objective of the proposals could be also to use the grants as leverage to attract further technical and financial partners.

e) Contract establishment

The contract will be established between the operator and the leader institution in charge of the action. The contract will describe the action and define the implementing conditions especially duration and payment conditions. The donor AFD will proceed direct payment according to the contract.

ANNEX 5: CANSEA GRANT ACHIEVEMENTS

Project	Achievement	Year	Benificiaries	Reference
AFS-Tool Kit	Activity Report	2018	AFD	https://ali-sea.org/aliseaonlinelibrary/documenting-local-tree-knowledge-and-developing-a-decisionsupport-tool-to-improve-resilience-of-agroforestry-systems-in-mountainous-areas-of-laos-and-vietnam/
AFS-Tool Kit	Communication in conferences	2018	Agroecology community	Local Agroforestry Knowledge in Southern Laos Mr Sayakone Onnaly and Mr Yannick Lamezec (CPC)
AFS-Tool Kit	Communication in conferences	2018	Agroecology community	Local tree knowledge on coffee agroforestry systems in mountainous areas of Vietnam
AFS-Tool Kit	Large public written publication	2018	Agroecology community	https://ali-sea.org/aliseaonlinelibrary/documenting-local-tree-knowledge-and-developing-a-decision-support-tool-to-improve-resilience-of-agroforestry-systems-in-mountainous-areas-of-laos-and-vietnam-afs-tool-kit/
AFS-Tool Kit	Pedagogical Tool	2018	Practitioners	http://www.shadetreeadvice.org https://ccafs.cgiar.org/publications/shade-tree-advice-tool#.WR63sTVF0u9).
AFS-Tool Kit	School graduation report	2018	Academic community	Lépine Mathilde. 2018. Connaissances locales des services écosystémiques dans les systèmes agroforestiers à base de caféiers au Laos. **Mémoire de fin d'études**. ISTOM, pp 122.
AFS-Tool Kit	Technical knowledge	2018	Practitioners	Farmers associated up to 31 ecosystem services with trees intercropped with coffee.
Agrarian	Activity report	2016	AFD	Agrarian dynamics in Laos and Cambodia, socio-economic & environmental impacts, **Progress report.**
Agrarian	Activity report	2017	AFD	Agrarian dynamics in Laos and Cambodia, socio-economic & environmental impacts, **Progress report.**
Agrarian	Activity report	2018	AFD	https://ali-sea.org/aliseaonlinelibrary/agrarian-dynamics-in-laos-and-cambodia-socioeconomic-and-environmental-impacts/ https://bit.ly/2RrucDn - **Final report**
Agrarian	Communication in conferences	2016	Agroecology community	https://bit.ly/2yDiCxW
Agrarian	Communication in conferences	2018	Agroecology community	https://drive.google.com/open?id=1hVjFjjJZHixZWPAujdwNxLrrGDzTIfUf
Agrarian	Large public written publication	2018	Agroecology community	**Leaflet :** https://ali-sea.org/aliseaonlinelibrary/agrarian-dynamics-in-laos-and-cambodia-socio-economic-and-environmental-impacts/
Agrarian	Pedagogical tool	2018	Academic community	**Courses :** http://e-learning.rua.edu.kh/courses/agrarian-transition-and-opportunity-windows-for-agroecological-innovation/
Agrarian	Pedagogical tool	2018	Academic community	**Courses :** http://e-learning.rua.edu.kh/courses/land-use-and-land-cover-changes-northwestern-uplands-of-cambodia/
Agrarian	Pedagogical tool	2018	Practitioners	On-line course RADA (Resilient Agriculture and co-Design Agroecology pathway) **game**
Agrarian	School graduation	2018	Academic community	**Bachelor** RUA)https://drive.google.com/open?id=1TKcwuR

	report			qEDCmzJFGuFrGMS2yCBCpC8liu
Agrarian	School graduation report	2018	Academic community	**Master.** https://drive.google.com/open?id=1JAx2N2e5McENfYC5NhAb69wZt7kFZTHV
Agrarian	School graduation report	2019	Academic community	**PhD: RADA KONG**: **7 novembre 2019** **Ecole doctorale :** GAIA - Biodiversité, Agriculture, Alimentation, Environnement, Terre, Eau Titre : Dynamiques de transformation des modes d'usage des terres et de leur impact sur les modes de vie des communautés rurales dans le nord-ouest du Cambodge: opportunités pour concevoir des systèmes de production résilients.
Agrarian	Scientific written communication	2018	Scientific community	CIRAD: https://filesender.renater.fr/?s=download&token=64a623c6-68d4-1996-dffc-38cbfd3de9fd
Agrarian	Workshop	2018	Agroecology community	Regional **writing WS** on agrarian changes and agro-ecological innovation in Cambodia and Laos
AMCP	Activity report	2018	AFD	**Final report:** https://ali-sea.org/aliseaonlinelibrary/acp-actae-project-2017-2018-agroecological-crop-protection/
AMCP	Clips & video	2018	Scientific community	**31 lectures and presentations** on ACP International Scientist School held in Can Tho in March 2018, https://www.agriculture-biodiversite-oi.org/en/ACP-ACTAE
AMCP	Clips & video	2018	Scientific community	**Movies**: Twin International Scientist Schools (Volterra and Can Tho), https://www.agriculture-biodiversite-oi.org/en/ACP-ACTAE(https://www.youtube.com/watch?v=9sjK2fkCz7k&t=38s)
AMCP	Clips & video	2018	Scientific community	**Movies** (in Vietnamese, English and French) on the role of weaver ants in South Vietnam, https://www.agriculture-biodiversite-oi.org/en/ACP-ACTAE
AMCP	Clips & video	2018	Agroecology community	Creation of a **YouTube channel**: Agroecological Crop Protection Network, https://www.youtube.com/channel/UCBhvIsesc2neAQpg7nbw1iQ/videos?view_as=subscriber
AMCP	Communication in conferences	2018	Agroecology community	**J. P. Deguine (CIRAD), N. Thi Ngoc Truc (SOFRI), D. Thi Yen Phuong (IFAM), Prof. Le Van Vang (Can Tho University), P. Cao Van (CIRAD), A. Franck (CIRAD)**, 2018. Parasitoids develop at the expense of a host and cause its death. **Poster**. Regional Forum Agroecology Futures, 5-6 November 2018, Siem Reap.
AMCP	Communication in conferences	2018	Agroecology community	**J. P. Deguine (CIRAD), N. Thi Ngoc Truc (SOFRI),** 2018. Predators catch and eat their prey. They are very effective at fighting crop pests. **Poster**. Regional Forum Agroecology Futures, 5-6 November 2018, Siem Reap.
AMCP	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/agroecological-crop-protection-acp/
AMCP	Large public written publication	2018	Agroecology community	**Leaflet**: Agro-ecological crop protection (ACP) in Khmer
AMCP	Large public written publication	2018	Agroecology community	**Leaflet**: Agro-ecological crop protection (ACP) in Lao
AMCP	Large public	2018	Agroecology	**Leaflet**: Agro-ecological crop protection (ACP) in

	written publication		community	Myanmar
AMCP	Large public written publication	2018	Agroecology community	**Leaflet**: Agro-ecological Crop Protection in South East Asia
AMCP	Large public written publication	2018	Agroecology community	**Web Page** of the ACP-ACTAE project, http://www.agriculture-biodiversite-oi.org/en/ACP-ACTAE/http://cansea.org.vn
AMCP	Training report	2018	Scientific community	**Dr. Jean Philippe Deguine**, 2018. **Highlights of the International Scientist School Agroecological Crop Protection**, Can Tho (Vietnam), 11–16 March 2018, 33 participants, (https://www.youtube.com/watch?v=9sjK2fkCz7k&t=38s) .
AMCP	Workshop report	2017	Agroecology community	**Deguine J.-P.**, 2017. **Minutes** of the ACP-ACPTAE Workshop. Hanoi, Vietnam, 25-26 April 2017, 44 pp.
AMCP	Workshop report	2017	Agroecology community	**Deguine J.-P.**, 2017. **Minutes** of the ACP-ACPTAE Workshop. Nay Pyi Taw, Myanmar, 3-4 May 2017, 42 pp.
AMCP	Workshop report	2017	Agroecology community	**Deguine J.-P.**, 2017. **Minutes** of the International ACP-ACPTAE Workshop. My Tho, Vietnam, 29-31 August 2017, 16 pp.
BAN POA	Large public written publication	2018	Agroecology community	**Leaflet**: https://ali-sea.org/aliseaonlinelibrary/strengthening-poa-technical-service-center-tsc-in-laos/ https://bit.ly/2yHiH3y
BAN POA	Technical support	2018	Practitioners	**Services** to 78 farmers (65 ha) in Xieng Khouang Province
BAN POA	Infrastructure	2018	Practitioners	Storing **infrastructure** for conservation and dissemination of diversified plant materials.
BAN POA	Genetic bank	2018	Practitioners	**Seed bank:** 7 legumes and 7 grasses
BAN POA	Activity report	2018	AFD	**Final Report :** https://ali-sea.org/aliseaonlinelibrary/strengthening-poa-technical-service-center-in-laos/
Bos Khnor Station/CASC	Book chapter	2016	Agroecology community	**Kong R., et *al*.,** 2016. **In: Sajise Percy E. (ed.**), Cadiz Maria Celeste H. (ed.), Bantayan Rosario B. (ed.). Learning and coping with change: Case stories of climate change adaptation in Southeast Asia. Los Baños: SEARCA, p. 55-81.
Bos Khnor Station/CASC	Communication in conferences	2017	Agroecology community	**Pheap S., et *al*., 2017.** UNCCD at Siem Reap, DCC/CCCA; 5-6 December 2017. Knowledge-sharing event informing policy – Climate change research and practice in Cambodia.
Bos Khnor Station/CASC	Large public written publication	2017	Agroecology community	**Leaflet:** Biannual rotation between early maize_dry season cassava under CA. Technical leaflet, Conservation Agriculture Service Center (DALRM/CASC), Department of Agricultural Land Resources Management, Khmer.
Bos Khnor Station/CASC	Large public written publication	2017	Agroecology community	**Leaflet:** Land preparation techniques for sustainable cassava production. Technical, Conservation Agriculture Service Center (DALRM/CASC), Department of Agricultural Land Resources Management, Khmer.
Bos Khnor Station/CASC	Large public written publication	2017	Agroecology community	**Leaflet:** Cassava planting material selection and storage. Technical leaflet, Conservation Agriculture Service Center (DALRM/CASC), Department of Agricultural Land Resources

				Management, Khmer.
Bos Khnor Station/CASC	Large public written publication	2017	Agroecology community	**Leaflet:** Rice cultivation under CA and short-term cattle production. Technical leaflet, Conservation Agriculture Service Center (DALRM/CASC), Department of Agricultural Land Resources Management, Khmer.
Bos Khnor Station/CASC	School graduation	2017	Academic community	**PhD Study: Ms. Malyna Suong.** Molecular epidemiology of plant-parasitic nematodes Meloidogyne spp. associated with rice in Southeast Asia.
Bos Khnor Station/CASC	Activity report	2018	AFD	**Final Report :** https://ali-sea.org/aliseaonlinelibrary/activities-implemented-by-the-conservation-agriculture-service-center-casc-bos-khnor-station/
Bos Khnor Station/CASC	Activity report	2019	AFD	**Final Report:** : https://ali-sea.org/aliseaonlinelibrary/activities-implemented-by-the-department-of-agricultural-land-resources-management-the-conservation-agriculture-service-center-casc-bos-khnor-conservation-agriculture-station/
Bos Khnor Station/CASC	Communication in conference	2019	Agroecology community	**Vira Leng et *al*., 2019**. Multi-criteria assessment of conventional and conservation agriculture-based cropping systems in Cambodia. The Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification. **Poster** presented at the annual meeting of SIIL, Senegal. https://bit.ly/2UMK6NL
Bos Khnor Station/CASC	Communication in conference	2019	Agroecology community	**Sambo Pheap et *al*., 2019**. Soil health assessment in the uplands of Battambang, Cambodia. The Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification. **Poster** presented at the annual meeting of SIIL, Sénégal. https://bit.ly/2PDJDZx
Bos Khnor Station/CASC	Communication in conference	2019	Agroecology community	**Vuthy Suos et *al*., 2019**. Appropriate-scale mechanization to foster the uptake of Conservation Agriculture in Cambodia. The Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification. **Poster** presented at the annual meeting of SIIL, Senegal. https://bit.ly/2YedHCA
Bos Khnor Station/CASC	Communication in conference	2019	Agroecology community	**Pierre Vernet et *al*., 2019**. Service Providers engagement in the adoption process of no-till planter in Battambang province, Cambodia. The Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification. **Poster** presented at the annual meeting of SIIL, Senegal. https://bit.ly/2Mu5qDa
Bos Khnor Station/CASC	Training	2019	Practitioners	**Tivet, F., Reyes, M., 2019**. Conservation Agriculture/Sustainable Intensification and linkages to climate resilience. **Regional Training** on Appropriate Scale Mechanisation for Conservation Agriculture, Siem Reap – Bos Khnor, 6-9 May 2019, Cambodia.
Bos Khnor Station/CASC	Training	2019	Practitioners	**Seng, V., Hok, L., Tivet, F., 2019**. Impacts of Land Use Changes and CA/SI Management on Soil Health. **Regional Training** on Appropriate Scale Mechanisation for Conservation Agriculture, Siem Reap – Bos Khnor, 6-9 May 2019, Cambodia.
Bos Khnor	Scientific written	2019	Scientific	**Pheap, S., Lefèvre, C., Thoumazeau, A., Leng,**

Station/CASC	publication		community	**A., Boulakia, S., Koy, R., Hok, L., Lienhard, P., Brauman, A., Tivet, F., 2019.** Multi-functional assessment of soil health under Conservation Agriculture in Cambodia. Soil & Tillage Research, 194, 104349. https://authors.elsevier.com/c/1ZWhhc13yHL~Z
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Florent Tivet**, 2018. **Regional Forum Agroecology** Futures, 6-8 November 2018. Towards the establishment of a Regional Training Center on Agroecological and CA systems
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Leng, V., et *al*., 2018**. Systems in Cambodia. 1st **international conference** on sustainable agricultural intensification and nutrition; 10th – 11th January 2018, Phnom Penh (**oral presentation**). Designing a New Generation of Conservation Agriculture Rice and Annual Upland Cropping
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Vira Leng et *al*., 2018**. **Regional Forum Agroecology Futures**, 6-8 November 2018. Planting green! To advance on farm sustainability.
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Rada Kong, 2018. Regional Forum Agroecology Futures**, 6-8 November 2018. Historical drivers of land use changes and their impacts on livelihoods in the uplands of Cambodia
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Stephane Boulakia, 2018.** Agroecology, commodities and agroecosystems transformation. **Regional Forum Agroecology Futures**, 6-8 November 2018.
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Tivet, F. et *al*., 2018.** 1st **international conference** on sustainable agricultural intensification and nutrition; 10th – 11th January 2018 Phnom Penh (**oral presentation**). Plant Diversity, a Central Element to Build Resilient Farming Systems'.
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Tivet, F., 2018. Regional Workshop** on the Role of Mechanization in Strengthening Smallholders' Resilience through Conservation Agriculture in Asia and the Pacific. 18-20 April 2018, Phnom Penh, Cambodia (**oral presentation**).
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Vira Leng et *al*., 2018. Regional Forum Agroecology Futures**, 6-8 November 2018. Effect of short-term conservation agriculture on soil organic C and N in lowland rice agroecosystem in Cambodia.
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Vira Leng, 2018**. **Regional Forum Agroecology Futures**, 6-8 November 2018. Toward Annual Crop Production under Conservation Agriculture Innovative-based Systems.
Bos Khnor Station/CASC	Communication in conference	2018	Agroecology community	**Vira Leng, 2018**. Regional Forum on Agroecology Futures. Siem Reap 6-8 November 2018. From cropping systems complexity to private engagement. Oral presentation. From cropping systems complexity to private engagement
Bos Khnor Station/CASC	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/developing-appropriate-scale-mechanization-for-ca-based-cropping-systems-in-south-east-asia/
Bos Khnor Station/CASC	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/platform-of-agro-ecological-systems-of-research-and-training-for-

				development/
Bos Khnor Station/CASC	Scientific written publication	2018	Scientific community	**Hok, L. et *al.*, 2018**. Enzymes and C pools as indicators of C build up in short-term conservation agriculture in a savanna ecosystem in Cambodia **Soil & Tillage Research 177: 125-133.**
Bos Khnor Station/CASC	Scientific written publication	2018	Scientific community	**Kieu Ngoc Le et *al.*, 2018**. Evaluating carbon sequestration for conservation agriculture and tillage systems in Cambodia using the EPIC model**. Agriculture, Ecosystems and Environment** 251 (2018) 37–47.
Bos Khnor Station/CASC	Scientific written publication	2018	Scientific community	**Kieu N. Le et *al.*, 2018.** Evaluation of Long-Term SOC and Crop Productivity within Conservation Systems Using GFDL CM2.1 and EPIC. **Sustainability 2018**, 10, 2665; doi:10.3390/su10082665.
Bos Khnor Station/CASC	Scientific written publication	2018	Scientific community	**Kieu N. Le et *al.*, 2018**. Evaluation of the performance of the EPIC model for yield and biomass simulation under conservation systems in Cambodia. **Agricultural Systems,** 166 (2018) 90–100.
Bos Khnor Station/CASC	School graduation	2018	Academic community	**Master: Mr. Leng Vira**. Assessing the changes in soil organic C & N, labile-C pool, soil respiration, mineralizable N, among others parameters under conventional management and a range of DMC systems.
Bos Khnor Station/CASC	Clips & video	2018	Academic community	Sharing Agroecological knowledge through E-learning
Bos Khnor Station/CASC	Genetic bank	2018	Agroecology community	**Seed bank: 50 species and 335 cultivars** with 50 cultivars of soybean with a cycle from 90-135 days, 180 cultivars of upland rice (100-125days), 22 cassava clones, 10 cultivars of mung-bean, 10 cultivars of cowpea, secondary commercial (cover) crops (9 species and 40 varieties), leguminous cover crops (12 species and 19 varieties), and grass cover crops (4 species and 15 varieties).
Bos Khnor Station/CASC	Training	2018	Practitioners	https://bit.ly/2FzAwYi
Bos Khnor Station/CASC	Network and partnership	2018	Scientific community	**JEAI**: https://ali-sea.org/aliseaonlinelibrary/jeai-healthyrice-a-project-on-agroecology-practices-for-rice-in-cambodia/
CISDOMA	Activity report	2018	AFD	**Final Report :** https://ali-sea.org/aliseaonlinelibrary/promoting-agroecology-transiton-via-enhancing-farmers-analytical-and-decision-making-capacity-through-application-of-simulation-games-version-in-english-vietnamese/
CISDOMA	Clips & video	2018	Practitioners	https://www.youtube.com/watch?v=n4HbtbNNzM8
CISDOMA	Communication in conferences	2017	Agroecology community	"Promoting agro-ecology transition via enhancing farmers' analytical and decision-making capacity through application of simulation games", Presented at **AliSEA regional annual** meeting, Hanoi, November 2017.
CISDOMA	Communication in conferences	2018	Agroecology community	"Simulation games with farmers to consider CC-adapted decisions", presented at Climate change adaptation **regional workshop**, organised by Bread for the World, the Philippines, April 2018.
CISDOMA	Communication in conferences	2018	Agroecology community	Using simulation games for agro ecology issues in South-Eastern Asia. Feedbacks from the field, Laos, February 2018.

CISDOMA	Communication in conferences	2018	Agroecology community	**Thy Thu Doan et al., 2018. Agroecology Future Regional Forum**, November 6-8, 2018, Siem Reap, Cambodia. Simulation games for agroecological transition. https://ali-sea.org/aliseaonlinelibrary/promoting-agro-ecology-transition-via-enhancing-farmers-analytical-and-decision-making-capacity-through-application-of-simulation-games-2/
CISDOMA	Large public written publication	2017	Agroecology community	**Leaflet :** http://cisdoma.org.vn/en/enhancing-farmers-analytical-and-decision-making-capacity-through-application-of-simulation-games/
CISDOMA	Large public written publication	2018	Agroecology community	http://cisdoma.org.vn/en/worshop-on-simulation-games/
CISDOMA	Pedagogical tool	2018	Practitioners	03 **game boards** developed on 04 topics
CISDOMA	Technical knowledges	2018	Practitioners	8 agro-ecological practices were introduced to and analysed by the farmers
CISDOMA	Training	2018	Practitioners	24 local **facilitators trained**
E-Learning	Workshop report	2017	Agroecology community	Towards, a regional initiative to develop A-Learning resources in agroecology, Phnom Penh, Cambodia, 11th of October 2017, Cambodiana Hotel.
E-Learning	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/sharing-agroecological-knowledge-through-e-learning/
E-Learning	Large public written publication	2018	Agroecology community	**Suos Vuthy et *al.*,** 2018. **Regional Forum Agroecology Futures**, 5-6 November 2018, Siem Reap. **Poster**. Plant diversity, our main tool to build a healthy and living soil. https://bit.ly/2KHKVk7
E-Learning	Clips & video	2018	Academic community	WCS farmers' **testimonies**, Preah Vihear. Benefits of forest ecosystem and use of cover/relay crops under an organic rice management system in Preah Vihear. Retrieved from Soil is Life: https://bit.ly/2Bu9Tjn
E-Learning	Clips & video	2018	Academic community	T**estimonies** from Mr. Bros Barang and Lam Sareth farmers from Veal Kropeu, Banan district, Battambang. Use of cover/relay crops after rice in the flood plains of Banan (Battambang) and use of sunnhemp of a tool to generate additional income and to communicate. Retrieved from Soil is Life: https://bit.ly/2POpa7w
E-Learning	Clips & video	2018	Academic community	**Testimony** of Ms. Phon Sovanny, seed production of sunnhemp in the uplands of Battambang. Retrieved from Soil is Life: https://bit.ly/2CS9JDQ
E-Learning	Clips & video	2018	Academic community	**Testimony** from Mr. Rada Kong. Living cover of Stylosanthes guianensis for rubber plantation. Retrieved from Soil is Life: https://bit.ly/2DUxM6g
E-Learning	Pedagogical tool	2018	Academic community	Cover crop – Functional diversity. **E-learning resource,** Retrieved from Soil is Life: https://bit.ly/2Qe2tct
E-Learning	Pedagogical tool	2018	Academic community	Cover crops and rice cropping systems. **E-learning resource**, Retrieved from Soil is Life: https://bit.ly/2AgYVw3
E-Learning	Pedagogical tool	2018	Academic community	Benefits of cover crops. **E-learning resource,** Youtube Channel Soil is Life: https://bit.ly/2QegJlq
E-Learning	Pedagogical tool	2018	Academic	Destruction of cover crops with roller crimper. **E-**

			community	**learning resource,** Retrieved from Soil is Life: https://bit.ly/2QfueRW
E-Learning	Pedagogical tool	2018	Academic community	Cover crops and biomass production. **E-learning resource,** Retrieved from Soil is Life: https://bit.ly/2PSPLAc
E-Learning	Pedagogical tool	2018	Academic community	Cover crops and adaptation to climatic conditions. **E-learning resource**, Retrieved from Soil is Life: https://bit.ly/2Bu4LMr
E-Learning	Pedagogical tool	2018	Academic community	**Outline E-learning course** on cover crops by Camille Giraudet and Florent Tivet, 23 pages, http://bit.ly/2YTwAdh
E-Learning	Communication in conferences	2018	Agroecology community	**Sovanda Son.** 2018**. Regional Forum Agroecology Futures**, 5-6 November 2018, Sien Reap. Disseminating underutilized species as a foundation of resilient farming systems. https://bit.ly/2YYzuJM
E-Learning	Pedagogical tool	2018	Academic community	**Ten courses and 32 modules**, http://e-learning,rua,edu,kh/
E-Learning	Activity report	2019	AFD	**Final report.** Developing an E-learning platform in Agroecology https://ali-sea.org/aliseaonlinelibrary/developing-an-e-learning-platform-in-agroecology/
E-Learning	Training	2017	Academic community	**Three courses** "To support the transition to agro-ecological practices" and 2 courses "To co-design agro-ecological practices", 1 course "To quantify the efficiency and impacts of agro-ecological practices" and 1 course "To adapt appropriate – scale machinery.
E-Learning	Pedagogical tool	2018	Academic community	**E-learning resource** on Cover Crops http://e-learning.rua.edu.kh/courses/cover-crops/
E-Learning	Pedagogical tool	2018	Academic community	Development of an **e-learning platform (LMS**) hosted by ITC "Learning 24/7, anywhere", on progress.
FCA - INLE	Infrastructure	2017	Practitioners	Contour **bunds construction** in the farmers' fields (about 20 ha belong to 24 farmers) for long-term advantage of soil and water harvesting
FCA - INLE	Technical knowledge	2017	Practitioners	**Multiple cropping and crop rotation in the demonstration farms**. Planting of perennial tree crops with permanent crop cover. Applying genuine chemical fertilizer mainly on N, P, K fertilizer with right amount and right time application in their cultivated land Supporting the required inputs to farmers to use FYM mixed with decomposed of crop residues, leaves and waste materials Making compost by adding effective micro-organisms, locally adaptable microbes (eg. Dochakin).
FCA-INLE	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/farmer-participatory-approach-on-soil-and-water-conservation-practices-leading-to-environmentally-sustainable-agriculture-case-study-inle-lake-watershed-area-fca-inle/
FIRST	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/functional-indicator-of-soil-ecosystem-first-investing-in-smart-tools-to-assess-soil-biological-functioning-2/

FIRST	Scientific written publication	2019	Scientific community	**Sambo Pheap, Clara Lefèvre, Alexis Thoumazeau, Vira Leng, Stéphane Boulakia, Ra Koy, Lysa Hok, Pascal Lienhard, Alain Brauman, Florent Tivet, 2019.** Multi-functional assessment of soil health under Conservation Agriculture in Cambodia, 2019. **Soil & Tillage Research.** https://doi.org/10.1016/j.still.2019.104349
FIRST	Assessment tool	2018	Agroecology community	A set of ten biological functional tools (**Biofunctool®**) was developed and used to assess the impact of different land use and cropping systems on soil functioning in Laos and Cambodia.
FIRST	Communication in conferences	2018	Agroecology community	**Poster**: Soil Quality Assessment of soybean-based conservation agriculture.
FIRST	Communication in conferences	2018	Agroecology community	**Poster**: Ecological intensification and soil Ecosystem Functioning
FIRST	School graduation report	2018	Academic community	**Mémoire de fin d'étude MSc thesis**: Biofunctool®, Lefèvre, Clara, (2018). Biofunctool®, an in-field package to assess soil quality based on soil functioning. Application in Cambodia. MSc thesis, Engineer in agronomy, Water-Soil-Environment, Bordeaux Sciences Agro, Montpellier SupAgro, 91p. Sous la direction de Florent TIVET (CIRAD) et Alain BRAUMAN (IRD).
FIRST	Training	2017	Practitioners	Biofunctool approach developed by Dr A. Brauman and A. Thoumazeau (IRD), rom 31st of July to the 5th of August 2016 in Thailand
FIRST	Training	2017	Practitioners	"BIOFUNCTOOL®": An in-field package to assess the impact of land managements on soil functioning, Laos PDR, from 29th October to 4th November 2017 Laos.
INOCSOJ	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/soybean-cropping-systems-in-south-east-asia-assessment-of-rhizobial-inoculant-quality-and-effect-of-management-practices-on-the-associated-soil-microbial-populations-inocsoj-project/
INOCSOJ	Large public written publication	2018	Agroecology community	**Leaflet.** https://ali-sea.org/aliseaonlinelibrary/inocsoj-legume-cropping-systems-in-south-east-asia-impact-of-agricultural-practices-and-inoculation-on-soil-microbial-communities/
LEGINCROP	Activity report	2017	AFD	**Progress report**. Do legume-based intercrops concurrently halt soil erosion, boost soil health and strengthen (natural) pest control services in cassava cropping systems of Northern Vietnam? (LEGINCROP).
LEGINCROP	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/do-legume-based-intercrops-concurrently-halt-soil-erosion-boost-soil-health-and-strengthen-natural-pest-control-services-in-cassava-cropping-systems-in-northern-vietnam/
LEGINCROP	Communication in conferences	2018	Agroecology community	**Trung Thang Nguyen et *al*.,** 2018. **Regional Forum Agroecology Futures, 6-8 November 2018.** Do legume-based intercrops concurrently halt soil erosion and boost soil health in cassava

				cropping systems in Northern Vietnam? https://ali-sea.org/aliseaonlinelibrary/do-legume-based-intercrops-concurrently-halt-soil-erosion-and-boost-soil-health-in-cassava-cropping-systems-in-northern-vietnam-legincrop/
LEGINCROP	Communication in conferences	2018	Agroecology community	**Didier Lesueur et *al*.,** 2018**.** Impact of agroecological management practices on soil microbial communities associated to legumes in Cambodia. **Regional Forum Agroecology Futures**, 6-8 November 2018. **Oral presentation**.
LEGINCROP	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/do-legume-based-intercrops-concurrently-halt-soil-erosion-and-boost-soil-health-in-cassava-cropping-systems-of-northern-vietnam-legincrop/
LEGINCROP	Technical knowledge	2018	Practitioners	Soils characteristics, Soil maps. Nodulation of cowpea, **21 rhizobial strains isolated and sequenced.** List of all inoculated and non-inoculated farms with area size, slope, category and inoculated strains.
LEGINCROP	Workshop	2018	Practitioners	**Meetings** with about 300 local farmers and with Van Yen district committee (Vietnam).
LICA	Meeting report	2016	Agroecology community	https://ali-sea.org/wp-content/uploads/06-05-16-1st-LICA-ASEAN-meeting.pdf
LICA	Activity report	2017	Agroecology community	https://ali-sea.org/wp-content/uploads/15-08-17-Report-progress-of-LICA-to-SOM-38-AMAF.pdf
LICA	Road Map	2017	Agroecology community	https://ali-sea.org/wp-content/uploads/15-12-17-LICA-road-map.pdf
LICA	Meeting report	2018	Agroecology community	https://ali-sea.org/wp-content/uploads/21-03-18-2d-LICA-ASEAN-MEETING.pdf
LICA	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/supporting-regional-upraising-on-agroecology-the-lica-initiative-process/
LICA	Activity report	2018	Agroecology community	**Khamlouang Keoka, 2018. The Agro-ecology Initiative in Lao PDR,** https://ali-sea.org/wp-content/uploads/13-05-18-Mapping-Lao-involvement-in-Agroecology-Initiatives.pdf
LICA	Concept note	2018	Policy makers	**ASEAN position on agroecology**: A Lao PDR initiative for ASEAN Ministers of Agriculture & Forestry (February 2018). https://ali-sea.org/wp-content/uploads/02-03-18-The-LAO-LICA-concept-note-on-a-ASEAN-common-position-on-Agroecology.pdf
LICA	Concept note	2018	Agroecology community	**Concept Note:** https://ali-sea.org/wp-content/uploads/15-02-18-LICA-in-brief-1-page.pdf
LICA	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/supporting-the-lao-facilitated-asean-initiative-on-agroecology-lica/
LICA	Network and partnership	2018	Agroecology community	http://ali-sea.org/lica-documents/)
NOMAFSI	Training	2018	Farmer's network	**217 farmers trained** in CA, agroecology, herbicides use, agro-ecological crops protections
NOMAFSI	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/promote-conservation-agriculture-in-the-northern-mountainous-region-of-vietnam-through-maintaining-and-out-scaling-existing-farmers-networks-and-reference-sites/ https://bit.ly/2JsNsxj

NOMAFSI	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/promote-conservation-agriculture-in-the-northern-mountainous-region-of-vietnam-through-maintaining-and-out-scaling-farmers-networks-and-reference-sites-previously-established-by-adam-project/
NOMAFSI	Activity report	2017	ACTAE partners	**Mid-term report**
NUS	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/understanding-the-potential-of-mung-bean-value-chains-in-the-lao-pdr-2/
NUS	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/are-there-opportunities-for-a-successful-mung-bean-value-chain-in-the-lao-pdr/ https://bit.ly/2qixqxo
NUS	Communication in conferences	2018	Agroecology community	**Chitpasong Kousonsavath and Isabelle Vagneron,** 2018. Understanding the potential of mung bean Value-Chains in the Lao PDR, **Regional Forum Agroecology Futures**, 6-8 November 2018. **Oral presentation**. https://ali-sea.org/aliseaonlinelibrary/understanding-the-potential-of-mung-bean-value-chains-in-the-lao-pdr/
Project design	Activity report	2018	AFD	**Final Report.** : https://ali-sea.org/aliseaonlinelibrary/final-narrative-report-actae-small-grant-facility-training-on-project-conception-version-french/
PROMOCROP	Activity report	2017	AFD	**Progress report :** underutilized species and cover relay crops, PROMOCROP in Cambodia
PROMOCROP	Activity report	2017	AFD	Mid-term report PROMOCROP in Lao PDR
PROMOCROP	Activity report	2018	AFD	**Final Report**. : https://ali-sea.org/aliseaonlinelibrary/disseminating-underutilized-species-and-coverrelay-crops-as-a-foundation-of-resilient-farming-systems-2/
PROMOCROP	Clips and video	2018	Practitioners	Seed production of sunnhemp in the uplands of Battambang, https://bit.ly/2CS9JDQ
PROMOCROP	Clips and video	2018	Practitioners	**A Youtube Channel** 'Soil is Life' has been created in 2018 by Lay Vichet (RUA, Computer Center) aggregation over 200 clips, testimonies and educational resources. 2020 subcriptors, https://bit.ly/2POpa7w https://bit.ly/2DUxM6g https://bit.ly/2Bu9Tjn
PROMOCROP	Clips and video	2018	Practitioners	Benefits of forest ecosystem and use of cover/relay crops under an organic rice management system in Preah Vihear, https://bit.ly/2Bu9Tjn
PROMOCROP	Clips and video	2018	Practitioners	Use of cover/relay crops after rice in the flood plains of Banan (Battambang) and use of sunnhemp of a tool to generate additional income and to communicate, https://bit.ly/2POpa7w
PROMOCROP	Communication in conferences	2018	Agroecology community	**Son Sovanda et *al*., 2018.** Disseminating underutilized species as a foundation of resilient farming systems. **Oral presentation**. **Regional Forum Agroecology Futures**, 5-6 November 2018, Siem Reap. https://bit.ly/2MRe9j7
PROMOCROP	Communication in conferences	2018	Agroecology community	**Suos Vuthy et al., 2018.** Preserving, sharing and empowering smallholder farmers to produce seeds of under-utilized species. **Poster. Regional Forum Agroecology Futures**, 5-6 November

				2018, Siem Reap.
PROMOCROP	Genetic bank	2018	Practitioners	12 Farmers are empowered to produce seeds (from 4ha to 34 ha), https://bit.ly/2CS9JDQ
PROMOCROP	Large public written publication	2018	Agroecology community	**Leaflet :** https://ali-sea.org/aliseaonlinelibrary/disseminating-underutilized-species-and-coverrelay-crops-as-a-foundation-of-resilient-farming-systems/
PROMOCROP	Pedagogical tool	2018	Academic community	**E-learning,** http://e-learning.rua.edu.kh/courses/cover-crops/
PROMOCROP	Technical support	2018	Practitioners	**Services:** The yields of sun hemp ranged from 670 to 1000 kg/ha with a net profit from $380 to $644/ha. This net income is on the same range that cropping mung bean (from 200 kg to 800 kg/ha) after an early corn in the uplands of Battambang.
PROMOCROP	Technical support	2018	Practitioners	**Services:** In Banan District (Battambang; 4 villages), farmers established ~150 ha of cover crops after wet season rice with for most of them a collective land management implementing
PROMOCROP	Training	2018	Practitioners	11 People trained by ECHO Asia. strengthening their knowledge, technical proficiency, and ability to produce, store and deploy key cover/relay crops and underutilized species, https://bit.ly/2CS9JDQ
PROMOCROP	Training	2018	Practitioners	80 participants, Bos Khnor Station (Aug. 2018) with smallholder farmers, development operators and national universities, https://bit.ly/2FzAwYi
Simulation games	Activity report	2017	ACTAE partners	**Progress Report**: Capacity building on simulation games for agro-ecological transition
Simulation games	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/cross-countries-training-introduction-to-the-use-of-simulation-games-for-the-participatory-design-of-contextualized-agroecology-scenarios-with-farmers-2/
Simulation games	Clips & video	2018	Agroecology community	https://www.youtube.com/watch?v=27Jj4_3fzI
Simulation games	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/cross-countries-training-introduction-to-the-use-of-simulation-games-for-the-participatory-design-of-contextualized-agroecology-scenarios-with-farmers/
Simulation games	Meeting Report	2016	ACTAE partners	Mise en œuvre de la proposition validée « introduction to the use of simulation games for the participatory design of contextualized agroecology scenarios with farmers" – Concertation sur les acteurs à inviter pour la première phase "Regional collective training in Vientiane".
Simulation games	Technical support	2017	Agroecology community	Support to the DOA team in Myanmar, the Cisdoma team in Viet-Nam, and the Cansea team in Cambodia.
Simulation games	Training	2017	Agroecology community	17th -18th January 2017: A two-day **regional training** for understanding SG
Simulation games	Workshop	2018	Agroecology community	6th-7th February 2018: A regional sharing of countries experiments and results
SOFUNRICE	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/enhancing-soil-functional-diversity-of-rice-fields-2/

SOFUNRICE	Communication in conferences	2018	Agroecology community	https://ali-sea.org/aliseaonlinelibrary/enhancing-soil-functional-diversity-of-rice-fields/
SOFUNRICE	Large public written publication	2018	Agroecology community	**Leaflet :** https://ali-sea.org/aliseaonlinelibrary/enhancing-soil-functional-diversity-of-rice-%ef%ac%81-elds-sofunrice/
SOFUNRICE	School graduation report	2018	Academic community	**Two theses** have begun, one in Vietnam (Hue Nguyen, PhD USTH/VNUA) and the other in France (AS Masson, PhD Montpellier University).
SOFUNRICE	Training	2018	Academic community	Importance of agro-ecological practices and their impact on parasitism. **Laboratory training** took place twice at ITC (April and June 2018) to transfer our knowledge to a panel of Master's students.
STOCK	Activity report	2017	ACTAE	**Mid-term report**
STOCK	Activity report	2018	AFD	**Final Report.** : https://ali-sea.org/aliseaonlinelibrary/soil-testing-the-impact-of-organic-amendments-for-the-benefit-of-market-gardening-farmers-stock-2/
STOCK	Technical knowledge	2017	Practitioners	Organic amendments characterization
STOCK	Technical knowledge	2017	Practitioners	Comparison of amendments performances
STOCK	Technical support	2017	Practitioners	Training, advisory, equipment to improve the quality of analyses provided by the soil analysis laboratory of DALaM.
STOCK	Training	2017	Academic community	2 days NUOL, Concept of soil ecology.
STOCK	Assessment study	2018	Practitioners	Compare the impact of organic amendment on plant yield and soil quality in plots under farmers' management.
STOCK	Assessment tool	2018	Practitioners	**Low cost sensors + data loggers devices** to monitor temperature in soil, compost, water, biochar and air humidity.
STOCK	Communication in conferences	2018	Agroecology community	Soil: Testing the impact of Organic amendments for the benefit of market gardening farmers
STOCK	Large public written publication	2018	Agroecology community	**Leaflet :** https://ali-sea.org/aliseaonlinelibrary/soil-testing-the-impact-of-organic-amendments-for-the-benefit-of-market-gardening-farmers-stock/
TAG	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/tag-project-trade-off-and-synergies-of-integrating-intensive-livestock-production-with-agroecology-in-mountainous-regions/
TAG	Activity report	2018	Agroecology community	**Blanchard M., Đuc Do Van, Hàn Anh Tuấn, Le Thi Thanh Huyen**, 2018. Diagnosis of the production and use of resources and spaces in a diversity of farms in two communes in of the mountain areas of North-West Vietnam: Chiềng chung commune (Mai Sơn District, Sơn La Province) and Thanh Yên commune (Điện Biên District, Điện Biên Province). **Rapport TAG-ACTAE, NIAS-CIRAD**
TAG	Activity report	2018	Agroecology community	**Le Thi Thanh Huyen, Blanchard M.**, 2018. Production and use of forage, conservation agriculture and agro ecology in Northern Vietnam and Laos. **Rapport TAG-ACTAE, NIAS-CIRAD,** 23p
TAG	Clips & video	2018	Agroecology	**Film:** A simulation tool of diversity if mixed farm is

			community	variable The modelling tool Xác định mô hình (Find out the model) has been designed (Excel sheet).
TAG	Communication in conferences	2018	Agroecology community	**Blanchard M. et *al.***, 2018. Trade-off and synergies of integrating intensive Livestock production with Agroecology in Mountainous regions, **Oral presentation**. **Regional Forum Agroecology Futures**, 5-6 November 2018, Siem Reap. https://ali-sea.org/aliseaonlinelibrary/trade-off-and-synergies-of-integrating-intensive-livestock-production-with-agroecology-in-mountainous-regions-2/
TAG	Communication in conferences	2018	Agroecology community	**Svahn C., et *al.*,** 2018. Understanding of cattle mobility and uses of forag e resources in DienBien thanks to a landscape analysis and a participative framework, **Oral presentation**. **Regional Forum Agroecology Futures**, 5-6 November 2018, Siem Reap. https://ali-sea.org/aliseaonlinelibrary/understanding-of-cattle-mobility-and-uses-of-forage-resources-in-dienbien-thanks-to-a-landscape-analysis-and-a-participative-framework/
TAG	Communication in conferences	2018	Agroecology community	**Le Thi Thanh et *al.*, 2018**. Integrated cattle production systems and use of resources in Northern Vietnam and Laos. In Hội thảo "Chăn nuôi động vật nhai lại: hiện trạng và giải pháp" [Conférence sur L'élevage des ruminants: situation actuelle et solutions], le 26 juillet 2018. VNUA
TAG	Communication in conferences	2018	Agroecology community	**Blanchard M., Van Moere C., Đuc Do Van, Hàn Anh Tuấn, Le Thi Thanh H. 2018**. **Poster:** Intégrer l'élevage intensif à l'agroécologie dans le nord du Vietnam / Integrate intensive livestock farming with agro ecology in northern Vietnam / Kết hợp chăn nuôi thâm canh với sinh thái nông nghiệp ở miền bắc Việt Nam. Version française, anglaise et vietnamiene. Poster TAG ACTEA, CIRAD, NIAS, ISTOM. 1p.
TAG	Communication in conferences	2018	Agroecology community	**Van Moere C., Blanchard M., Andrieu N., Vall E., Le T.T. Huyen. 2018**. **Poster:** Co-conception de scénarios d'affouragement agroécologiques dans la région des montagnes du Nord du Vietnam. Affiche, 3R Rencontres Recherches Ruminants, Paris, Déc 2018.
TAG	Communication in conferences	2018	Agroecology community	**Van Moere C., Blanchard M., Andrieu N., Vall E., Le Thi Thanh H., 2018.** Co-conception de scénarios d'affouragement agroécologiques dans la région des montagnes du Nord du Vietnam. 3R, Paris.
TAG	Communication in conferences	2018	Agroecology community	**Van Moere C., Blanchard M., Le Thi Thanh H., 2018.** Trade-off and synergies of integrating intensive Livestock production with AGroecology: modelling of Thanh Yên commune. In Hội thảo "Chăn nuôi động vật nhai lại: hiện trạng và giải pháp" [conference sur L'élevage des ruminants: situation actuelle et solutions], le 26 juillet 2018. VNUA.
TAG	Data base	2018	Scientific	Describing the structure, crop-livestock practices,

			community	biomasses management (production and use of forage, intercropping, crop residues, and manure), dynamics on farms, animal mobility, for divers farms with cattle production (90 farms, 698 variables, Excel).
TAG	Large public written publication	2018	Agroecology community	**Leaflet :** https://ali-sea.org/aliseaonlinelibrary/trade-off-and-synergies-of-integrating-intensive-livestock-production-with-agroecology-in-mountainous-regions/
TAG	Pedagogical tool	2018	Practitioners	The **modelling tool** Xác định mô hình (Find out the model) has been designed (Excel sheet).
TAG	School graduation report	2018	Academic community	**Master 2, Van Moere C., 2018.** Evaluation des synergies entre intensification de l'élevage et options agro-écologiques : modélisation de scénarios dans le Nord Vietnam. Mémoire de fin d'étude. ISTOM, 133p.
TAG	Workshop	2018	Agroecology community	Blanchard M., Đỗ V. Đ., Hàn A. T. 2017. Report of mission "Kick-off meeting with the DARD of Sơn La and Điện Biên Province, and diagnosis of the production and use of resources and spaces in farms", Project TAG, Small Grant ACTAE, from 10/17/17 to 10/20/17. 11p.
Tonle Sap	Activity report	2018	AFD	**Final Report.** https://ali-sea.org/aliseaonlinelibrary/supporting-the-transition-towards-agroecological-practices-collective-land-and-cattle-management-around-the-tonle-sap-cambodia/
Tonle Sap	Assessment study	2018	Farmers	The potential "demand" for proposed innovation
Tonle Sap	Communication in conferences	2018	Agroecology community	**Oung N., et *al.*,** 2018. Diversification of rice-based farming systems in Tonle Sap Lake Region, Cambodia, **Regional Forum Agroecology Futures**, 5-6 November 2018, Siem Reap. https://ali-sea.org/aliseaonlinelibrary/diversification-of-rice-based-farming-systems-in-tonle-sap-lake-region-cambodia/
Tonle Sap	Large public written publication	2018	Agroecology community	**Leaflet:** https://ali-sea.org/aliseaonlinelibrary/diversi%ef%ac%81cation-of-rice-based-farming-systems-in-tonle-sap-lake-region-cambodia/
Tonle Sap	School graduation report	2018	Academic community	**Pierre-Antoine Vernet: MSc** Agroecology, Climate Change and Transition, April to September 2018.: https://ali-sea.org/aliseaonlinelibrary/diversification-of-rice-based-farming-systems-in-tonle-sap-lake-region-cambodia-pathways-for-the-use-and-scaling-up-of-conservation-agriculture-practices/

Third ACTAE Steering Committee

Organized by DALaM, CIRAD and GRET

Supported by AFD

08 October 2019

NEW ROSE BOUTIQUE HOTEL, Vientiane, Lao PDR

Meeting Report

This last steering committee was the opportunity to look at the road and the achievements accomplished with the ACTAE project to support the agro-ecological transition in Southeast Asia and also to look to the future.

1. Objectives of the meeting:

- To discuss the ACTAE achievements and how this project is contributing to the agro-ecological transition.
- To amend and to validate the ACTAE final report.

2. Presentations and discussions

Presentation of the ACTAE results (2015 – 2019), by Catherine Marquié and Lucie Reynaud

The context, organization and main achievements of the project have been presented in details. Questions of participants were dedicated to the organization of the ALiSEA Network:

- Who are the new members of ALiSEA? There are mostly universities, farmer's organizations, and private Sector. It is interesting to notice that the profile of stakeholders is different between countries. For instance, in Vietnam, members are mostly universities and research centers whereas in Cambodia and Laos it is mostly NGOs. This difference could partly be related to the profile of the institution hosting the national secretariat.
- Where is the list of ALiSEA members in Laos? It is available on ALiSEA website

Presentation of the ACTAE activities under the cooperation between DALaM and ACTAE by Mr. Phetsakhone Soulygnalath

The presentation described the DALaM activities, in the ACTAE project, to:

- Strengthen the Ban Poa Service and Technical Center
- Carry out the project "Disseminating underutilized species and cover/relay crops as a foundation of resilient farming systems - **PROMOCROP"**
- Support the Lao Initiative on Conservation Agriculture and Agroecology (LICA)

Recommendations were made by DALaM about future activities to improve Ban Poa STC development:

- Support the training fund to the center
- Assist in the production of the technical tools or manuals
- Capacity building for technical center staffs

Dr. Nivong Sipaseuth highlighted the needs for:

- Scaling up from national to regional level, to access to AE information. Improving the dissemination of actions/results from national to regional level to match with needs of each level with farmers and to transfer technologies to farmers and stakeholders,

- Training of trainer support (ToT),
- Equipment support to Boa Poa Center (machinery),
- Do the research activities on accepting the CA and AE technique and how to mobilize people to the flagship site,
- Clear flagship at Ban Poa station + other sites working on conservation agriculture (EFICAS project locations)
- Setting up model on soil water nutrient management center, Asian Soil Partnership,
- Discussing about project management in the new ASSET project,
- Supporting LICA.

Additional information on activities carried out in Lao PDR by other institutions has been given by Catherine Marquié:

- The “Study on market opportunities for mung bean in the Lao PDR” by NUOL.
- The project “Soil: Testing the impact of organic amendments for the benefit of market gardening farmers” by NUOL.

ACTAE results and perspectives, the vision of the Vietnam representative by Dr. Ngo Duc Minh and discussion

A presentation of VAAS has been made before detailing all the activities, partnership and achievements accomplished within the ACTAE project, in Vietnam:

- Promote Conservation Agriculture in the northern mountainous region of Vietnam through maintaining and out scaling existing farmer’s networks and reference sites previously established by ADAM project.
- Documenting local tree knowledge and developing a decision-support tool to improve resilience of agroforestry systems in mountainous areas of Laos and Vietnam.
- Agro-ecological Crop Protection (ACP)

Priorities for the future were identified:

- Building capacity for farmers in safe use of chemicals (for the users, the food products and the environment).
- Strengthening Research for Development on agro-ecological control of pests & diseases (ACP approach).
- Developing CA and AE systems suitable for different contexts to gradually replace mono-cropping systems of maize or cassava on slopes ... as part of the 4 per 1000 program signed by MARD in 2018.

Main topics of interest of ALISEA members were presented:

- Sustainable/Low emission Agriculture, Forestry
- Integrated agroforestry-system development

- Agroforestry models, combining short-term crops, long-term trees (fruit and forest trees) and fodder crops to facilitate the harmonic development of agriculture, forestry and animal husbandry production
- Alternative Livelihoods, and business development for poor farmers
- Climate change and Climate change adaptive measurements
- Disaster risk reduction and Emergency response
- Rights based approaches, participatory approaches in development
- PGS organic agriculture
- Educational training and research on agroecology and environment
- Agrisud supports the creation of sustainable Very Small family farming Enterprises

Matthieu Bommier asked in which proportion agroecology is developed in Vietnam. Is it able to measure the agroecological transition? Are there indicators available to measure? What is the impact of the overall transition?

VAAS uses to work mainly on mountainous areas. During last 10 years they have been many initiatives on conservation agriculture financed by AFD and ACIAR. It is possible to share and consult the projects in terms of conservation agriculture and agroecology. There would be around 20 to 30% of farmers in Vietnam engaged into AE transition. It is very difficult to know at national level. It is easier to get information on specific provinces. The mountainous areas are among the poorest provinces, so it is priority of the government. Extension Networks are working at every level. They are strong in Vietnam. Research centers need to work with extension worker at villages, commune, district and province levels.

For the implementation of ASSET, Dr. Ngo Duc Minh recommends working in mountainous area and with extension network.

Presentation of the ACTAE results and perspectives, the vision of the Cambodia by Mr. Am Phirum and discussion

The presentation addressed:

- Agricultural Strategies and Programs in Cambodia
- The presentation of Department of Agricultural Land Resources Management (DALRM)
- The context, ACTAE activities and results in soil restoration, soil health and biodiversity: rotation, no-till sowing, conservation agriculture, crop diversification and intercropping, use of underutilized cover crops, the use of other important cover crops such as sorghum, new practices, organic nutrients.

Aurore Ungerer asked why the number of followers in Facebook ALISEA is way higher in Cambodia that in the other countries. Lucie Reynaud answered that it is because of the videos of farmers testimonies, networking, promoting in farmers community.

Matthieu Bommier asked if membership of farmers in ALiSEA is realistic. Is it an objective to have farmer's organizations in ALiSEA? Do we need an

intermediary level or NGO to facilitate? Lucie Reynaud answered that in Cambodia the farmer's federations at national level, representing 3 000 to 6 000 farmers and having close relation with provincial levels, are good intermediaries. There is interest from farmers to work with federations. Anyway, it is also important to involve farmers in workshops. During ACTAE project, members such as development practitioners, private sector are directly working with farmers.

Matthieu Bommier asked to Mr. Am Phirum how to measure the transition of AE in Cambodia? He underlined that it is also of interest to document bad/agro-chemical practices. Mr. Am Phirum answered that Cambodia is involved in Gap Agricultural Practices (GAP) standards to promote it at national level and start to minimize the chemical inputs among farmer's practices. It is still difficult to measure the transition towards AE.

Information point on ASSET, the future project "Agroecology and Safe food System Transitions" by Matthieu Bommier

Matthieu Bommier presented the context and the long process leading to the proposal of ASSET and its future funding by AFD and European Union.

The Grant committee planned on 21 October 2019 is not the final decision, AFD will provide the final decision after EU board meeting decision.

MoUs will be signed with the host institutions in each country.

Dr. Nivong Sipaseuth highlighted that we should take lesson learned from ACTAE.

How to ensure good flow of communication from local to regional levels?

The Lao government wants to reduce pesticides and herbicides practices, in line with government strategy Green Growth. How to disseminate technologies to farmers? ASSET needs to show farmer's problems. There is a need of support, including ongoing support to LICA, How to ensure funding go down to farmer's level? Matthieu Bommier answered that it is necessary to have scientific knowledge, to explain the practices, to engage farmers with the producers' federations and the network of extension workers, of the market. It is a complex project because of complex problems.

Need to officially inform the Lao Ministry of Agriculture as soon as the project has been approved by AFD, to ensure fast process of MoU with DoPLA. A first meeting between GRET, CIRAD and DoPLA will take place this week.

What is the role of DALAM in the new ASSET project?

DALAM will be a partner of ASSET project. Working meetings have started to discuss about the collaboration on ASSET project such as activities related to flagship sub-component. This process will continue until November in order to reach agreement on the activities. GRET and CIRAD are available to continue this work with DALAM.

3. Conclusion

AFD Conclusion

Finishing this project is a moment filled with emotion.

AFD congratulates the team that produced the final report and hopes that a fruitful collaboration will continue.

ASSET will be an important project for AFD (only one regional project in the region granted this year). There are key challenges on AE transitions. The priorities supported by France are climate change, biodiversity and livelihoods. AFD has made significant efforts to focus mainly on agroecology by granting a single grant to Laos, or 5 million AFD, and to promote this project.

DALaM Conclusion

DALaM thanks AFD and CIRAD experts. It stresses the importance of continuing and achieving the objectives of ASSET to expand agroecology in South East Asia.

GRET Conclusion

GRET thanks the MAF, CIRAD and AFD partners for entrusting it with a long project since 2012. It is really impressive and satisfied with the rise that we are now achieving. It is important to continue this partnership with CIRAD, DOPLA, and DALAM.

CIRAD Conclusion

CIRAD thanks all its partners for their contribution to the achievements of the ACTAE project and the participants attending this meeting.

CIRAD thanks DALaM for its strong commitment and support to the project. This CIRAD-DALaM collaboration has been an asset in the success of ACTAE.

Thanks also to AFD for renewing its confidence to the ACTAE partners in co-financing the upcoming ASSET project.

CIRAD also thanks GRET, which has been a very dynamic and productive partner in the project. With the emergence of ALiSEA, solid foundations of the ASSET project are there.

Agroecology is more than necessary for a sustainable development in such a challenging climate change context. CIRAD is deeply convinced that the ASSET project will enable its partners to respond with relevance and effectiveness.

Catherine Marquié wish, all ASSET partners, good luck with this new project and especially to succeed in launching a significant agro-ecological transition in the region.