• Mekong inclusive growth & Innovation Programme (MIGIP) is a program of Swisscontact that focuses on rural development in agriculture and tourism sectors.

• In Agriculture, MIGIP aims to increase successful commercial adoption of appropriate existing agro-technologies and strengthen local capacity in the development and commercialisation of new, appropriate agro-technologies for smallholder farmers.

• MIGIP, through close collaboration with public and private partners, has been working on promotion of existing and new technologies, giving special emphasis to sustainable agriculture, through supporting private sector and promoting public-private partnerships.
WHAT MIGIP DID

PRIVATE SECTOR ENGAGEMENT AND SUPPORT

Connected and pitched ideas for partnership and cooperation with private company

Worked closely with team of private company to implement the activities

Provided support to private companies including strategic consulting, problem solving and skills & capability improvement

MARKET SYSTEM DEVELOPMENT

Developed 4S model, a “go-to market strategy”, by working with service providers in the community to provide services to smallholder farmers

Introduced marketing strategy both traditional marketing methods and social media marketing

PUBLIC-PRIVATE SECTOR ENGAGEMENT

Supported on engagement and coordination between government entities and private companies to work together in promoting machinery and technology to smallholder farmers
Private Partners

Public Partners

- Department of Agriculture Engineering (DAEng)
- Department of Agriculture Land Resource Management (DALRM)
- Department of Extension for Agriculture Forestry and Fisheries (DEAFF)

Research Institutions Partners

5 Private Sector
3 Public Sector
3 Research Institutions

12 partnerships
OUR RESULTS

- 707 AG MACHINERY UNITS SOLD
- USD 600,000+ INCREASED SALE
- 8,078 FARMERS GAINED ACCESS
- 1,763 FARMERS INCREASED INCOME
10 technologies
No-till Planter

the tractor implement used in planning stage of farming. The technology is applied according to one of Conservation Agriculture principal with minimum soil disturbance.

TECH 1

This technology plays an essential role in Conservation Agriculture (CA) practices as the no-till planter gives consistent seed furrows and depth which is the tool to serve for minimum soil disturbance.

previous practice: convention ploughing and tillage

change in practice: planting without tillage

yield increase

• reduce soil erosion and conserve moisture
• increase soil fertility

cost decrease

• fewer operations
• less labour
• reduce fertilizer usage

experience in:
Battambang
TECH 2

This technology plays an essential role in Conservation Agriculture (CA) practices as the no-till planter gives consistent seed furrows and depth which is the tool to serve for minimum soil disturbance.

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change in practice:  
planting without tillage

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• reduce fertilizer usage

experience in: testing

No-till Planter
(Chinese brand)
a tractor implement used in planning stage of farming. The technology is applied according to one of conservation agriculture principal with minimum soil disturbance.
Roller Crimper

This technology plays an important role in CA practice as it is used to roll over the cover crops and leave them to decompost as organic fertilizers, which then is followed by planting the cash crops by using the no-till planter attached at the back of the tractor.

**previous practice:**
- no cover crop planting
- use herbicides and fertilizers

**change in practice:**
- planting cover crop before cash crops
- mow down cover crop using Roller Crimper

**yield increase**
- reduce water evaporation
- create organic fertilizer

**cost decrease**
- reduce herbicides
- reduce health’s risks
- reduce fertilizer usage

experience in:
- Battambang

ROLL 3

a tractor implement attached to the front of the tractor, used in the cover crops management stage to terminate or mow the cover crops down on the ground.
Land Leveler

a tractor implement used in land preparation stage of farming.

Uneven soil surface has a major impact on the germination, stand, and yield of crops due to inhomogeneous water distribution and soil moisture. Therefore, land levelling is a precursor to good agronomic, soil, and crop management practices.

previous practice:
- conventional land levelling

change in practice:
- levelled land
- homogeneous water distribution

yield increase
- good germination and growth of crops results in higher crop production

cost decrease
- reduce time and water irrigation

experience in:
Battambang
Seed Broadcaster

is a locally invented machinery used in planning stage of rice farming (where broadcasting method is applied).

Previous seed spreading or broadcasting practice is done by hand, which requires a lot of labour force and time; which can be saved by this machinery. Fertilizer spreader/seed broadcaster is effective in increasing production as it is less time consuming and requires minimal labour.

previous practice:
• broadcasting by hand
• labour force and time consuming

change in practice:
• spreading fertilizer and broadcasting seeds by the machine

<table>
<thead>
<tr>
<th>yield increase</th>
<th>cost decrease</th>
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</table>
| • spreads adequate and equal amount of fertilizer and seed on land | • minor labour and time required
| | • seed and fertilizer efficiency

experience in: Kampong Thom
Noeurn Sprayer is a locally invented machinery, capable for big and muddy farmland, used to increase the time and resources efficiency and reduce the risk of direct exposure to liquid chemical.

TECH 6

Spraying chemical on the crops manually is labour and time consuming. The exposure to chemical itself is also a big concern for farmers who work directly in the spraying processes. Noeurn Sprayer can be a big of help to alleviate these concerns.

previous practice:
• hand spray with human labour

cost decrease:
• reduce labour and solve labour shortage
• save time and increase efficiency

change in practice:
• using Noeurn Sprayer to spray liquid fertilizer & pesticide

experience in:
Kampong Thom

improve health safety:
• greater safety to farmer’s health
TECH 7

BCS Hand Tractor (multi-purpose two-wheeler) is an Italian hand-held machinery imported by a local company, Angkor Green. It is used for various type of activities in the farm especially in maintaining processes.

BCS hand tractor is a beneficial substitution of human labour in terms of maintaining the farm. BCS tractor comes with various types of implements that can be used for any activity as the farmers need and it increases the productivity since it reduces the amount of labour and time.

previous practice:
- human labour

change in practice:
- using hand tractor as substitute

yield increase
- timely maintenance of the plantation

cost decrease
- reduce labour and solve labour shortage
- save time and increase efficiency

experience in: Battambang
Angkor Sprayer is a new type of fertilizer sprayer for fruit trees. It uses the enhanced electrostatic technology to make liquid fertilizer spraying more effective and efficient.

TECH 8

Angkor Sprayer can be a big help to alleviate concerns of exposure to chemicals and excessive labour and time consumption. Angkor Sprayer is equipped with high-end technology where it produces electro-magnetic droplets to spread all over the crop effectively.

**previous practice:**
- human labour

**change in practice:**
- using Angkor Sprayer to spray liquid fertilizer and pesticide

**improve health safety**
- greater safety to farmer’s health

**cost decrease**
- reduce labour and solve labour shortage
- save time and increase efficiency

experience in: Battambang
Tractor Implements are attachments to tractors, that enable different operations for various farming stages. They include ploughing tools (disc plow, disc harrow, rotary), cassava planter, cassava ridge, cassava puller, rice seeder, boom sprayer, etc.

Among many implements, only ploughing tools for land preparation stage are the most popular. In other farming stages, farmers still highly depend on human labour, opening a market potential for other tractor implements.

previous practice:
• human labour

change in practice:
• using implements attached to tractor to replace manual works

increased productivity
• can be used on large farmland

cost decrease
• reduce labour and solve labour shortage
• save time and increase efficiency

experience in:
Oddar Meanchey
Cassava Cutter is a locally invented machine used to cut the harvested cassava into pieces for drying and to be sold as dried cassava which is the popular practice among Cambodian farmers.

**TECH 10**

Cassava cutter has the ability to cut cassava into small chunk quickly which helps the farmers save labour and time.

**Previous practice:**
- Human labour

**Change in practice:**
- Using local invented cassava cutter instead of cutting manually

**Cost decrease**
- Reduce labour and solve labour shortage
- Save time and increase efficiency

**Experience in:**
Oddar Meanchey
Thank you!

Mekong Inclusive Growth & Innovation Programme (MIGIP)