S3A-P3

Food and Agriculture Organization of the United Nations

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Knowledge sharing event –
Cambodia's response to climate change

Micro-watershed management

Life and Nature Project

Strengthening the adaptive capacity and resilience of rural communities using micro-watershed approaches to climate change and variability to attain sustainable food security in Cambodia

Mr. Chea Chanthan, M&E and Participatory Expert
Preah Sihanouk, 29th November 2016

About the project

- Project is financially supported by Global Environmental Facility (GEF) in the amount of 5.2 million USD
- Project duration: 5 years (2015 – 2019)
- Target areas: 4 provinces Siem Reap, Preah Vihear, Kampong Thom and Ratanakiri) and in 4 communes.
- Main implementing partner: Ministry of Environment
- Sub-national partners: PDA, PDWA, PDE and other relevant provincial departments.

Objectives:

build adaptive capacity of rural communities and reduce their vulnerability to climate change and variability through **integrated micro-watershed management** and **climate resilient agriculture practices** to ensure **food security** in Cambodia.

Main project components

#2: Watershed management

Watershed management Committee

- Improve ecosystem, land, and water…etc.
- Improve access to irrigation.
- Strengthening community based organization e.g. CPAs and CFs to manage resources.

#3: Agriculture productivity

Farmer Field School (FFS)

- Promote Climate Smart Agriculture (CSA)
- Improve productivity
- Improve soil management
- Promote resilient practices
- Improve knowledge on climate change and adaptation capability.

#4: Alternative livelihood for women

Women Producer Group (WPG)

- Improve decision-making for women and economically empower women
- Group saving
- Improve market linkages
- Improved business knowledge and management for women

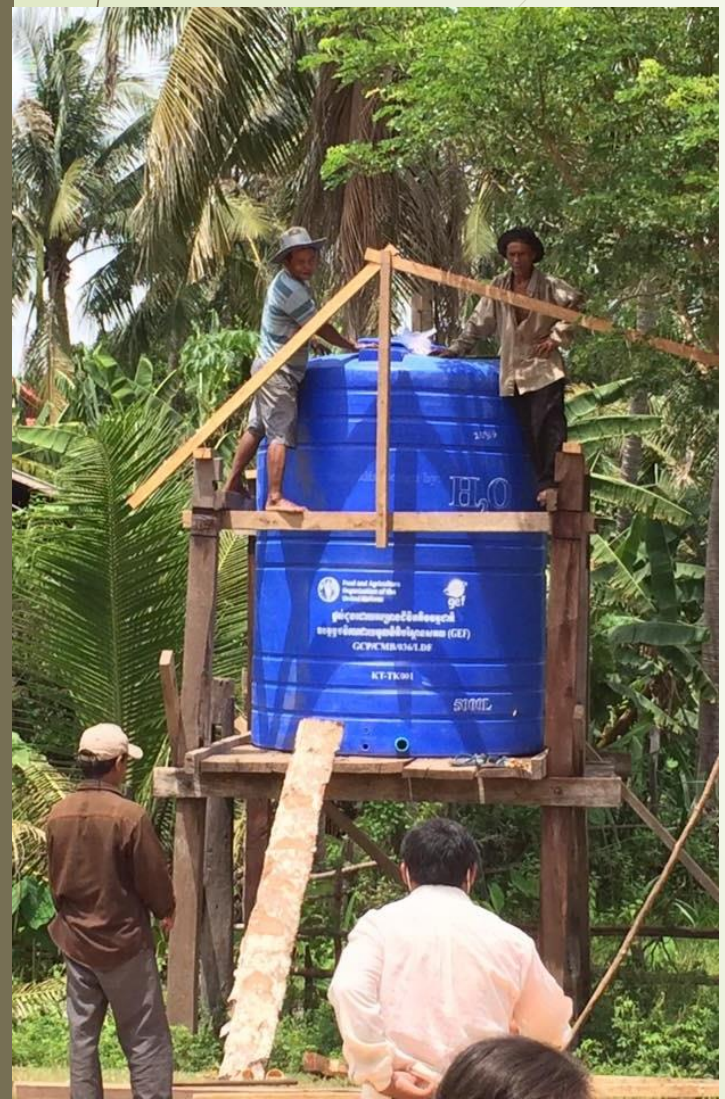
#1: Policy recommendation

Recommendation for policies related to agriculture and food security on improved resilience to climate change impact

Overview on the management of the target micro-watersheds

- Apply landscape approach to sustainably manage resources that take into account whatever concern both resources and people (balance between resources and people's livelihood) –
- WSM takes integrated approach to management of land, water and other natural resources in sustainable manner so that the functions of watershed are maintained (ecological, economic, and socio-cultural functions).
- Community shall look into addressing the issue (CC) in interactive manner, not separately between ecosystem and farming system.
- WSM carries out number of activities with an integrated approach addressing proper land use, all forms of land degradation and erosion control, improve soil fertility, conserving water for farm use, improved land productivity and production
- Ensure participation from all stakeholders – local authorities, government line departments at the local level, farmers groups (CPA, CF, WPG…etc.)

Integrated approach for WSM



The approaches taken can be classified as: protection and prevention, rehabilitation, conservation education and extension, and income generating approaches.

- **Protection and prevention approach include:** Support and strengthening the functions of Community Protected Areas (CPAs), Community Forest (CFs), protection of water sources through addressing erosion in the uplands and improved management of water for farming use (e.g. micro-water retention structures)
- **Rehabilitation include:** the vegetative measure through replanting tree and agro-forestry.
- **Conservation education and extension include:** the awareness-raising activities related to environmental protection as well as climate change impact.
- **Income generating approach include:** the improvement of land productivity, promotion of climate resilience practice to farming activities (e.g. efficient use of water, soil fertility management and also improved market linkages…etc.), as well as building farmers' institution through saving activities to cope with the impact of climate change – Women Producer Group.

Process for WSM

Stakeholder identification and engagement

Establishment of watershed management committee (WSMC)

Capacity building for WSMC:

Development of WSM plan

Approval on the WSM plan

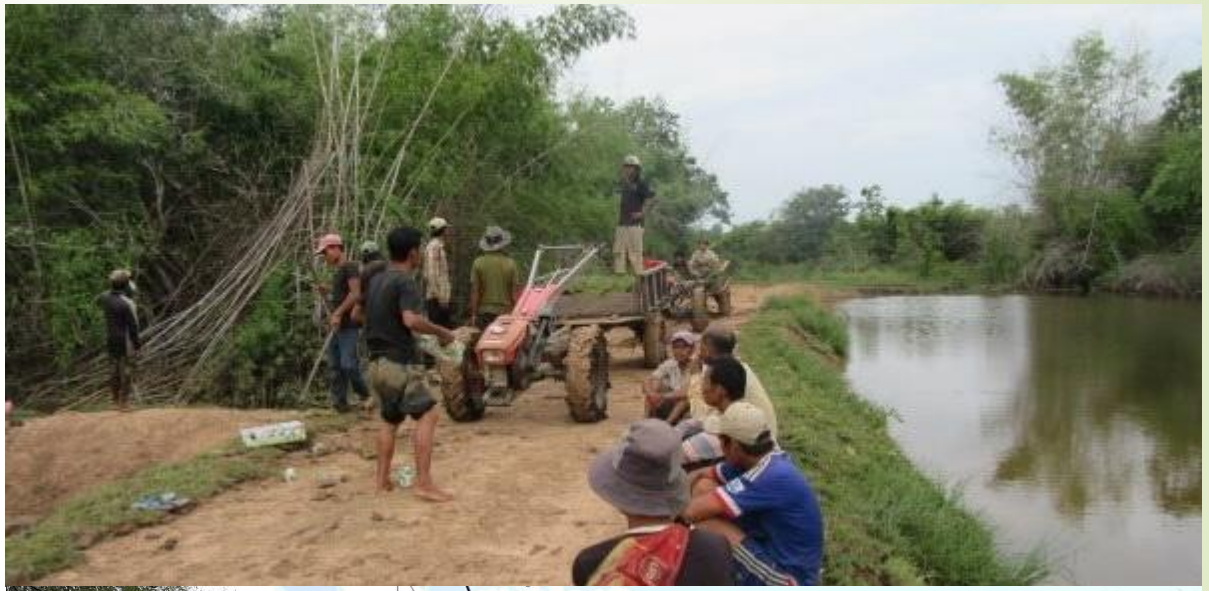
Implementation of the WSM plan

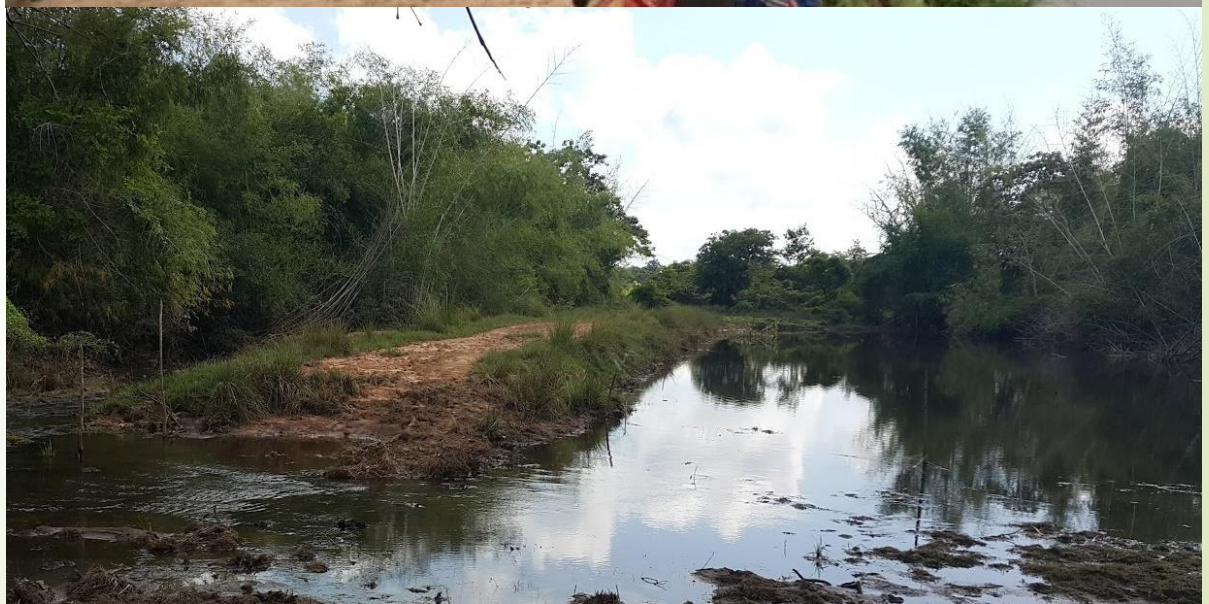
Integration of WSM plan into the local development plan - CIP

- Ensure thorough participation and consultation among stakeholders
- Officially recognized by the commune authorities - Deika
- problem identification and analysis, consultation, planning, and monitoring.
- See watershed as a whole area for improvement. This will include the strengthening of farmers associations to manage resources, improved resilient practices, income-generating activities…etc.
- Look into the challenges facing the watershed in comprehensive manner – natural resource management, farming, livelihood and education

Conservation of water resource

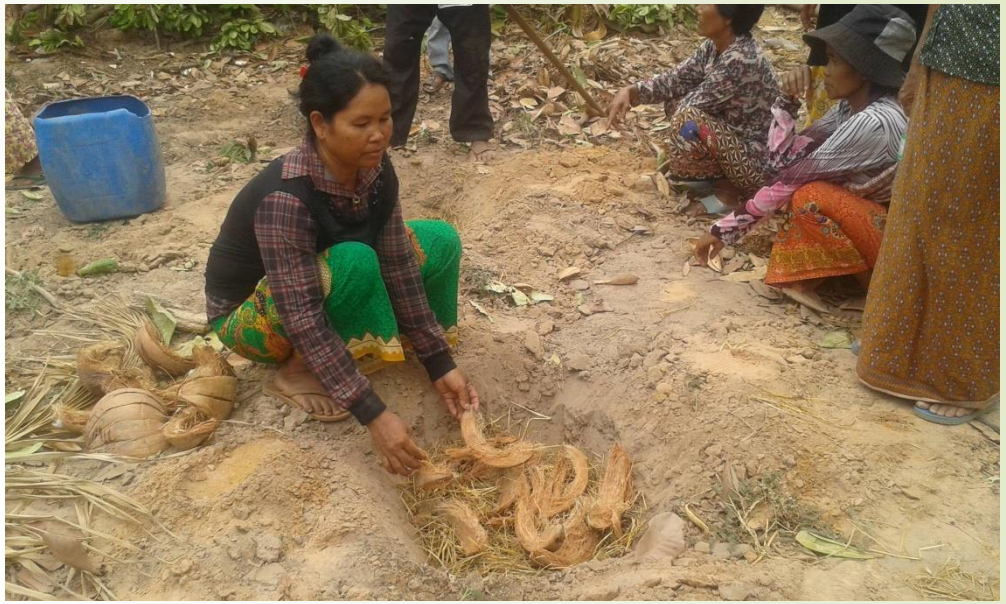
- There has been local initiative to harvest surface water for farming use e.g. Kulen Cheung commune, Preah Vihear.
- Contribution: in this example, people contribute about USD 2,000 to build this water retention structure.
- More support is needed to improve the riparian planting and ANR activities in the around the areas
- Project will support the construction of micro-irrigation structures through the WSM plans.

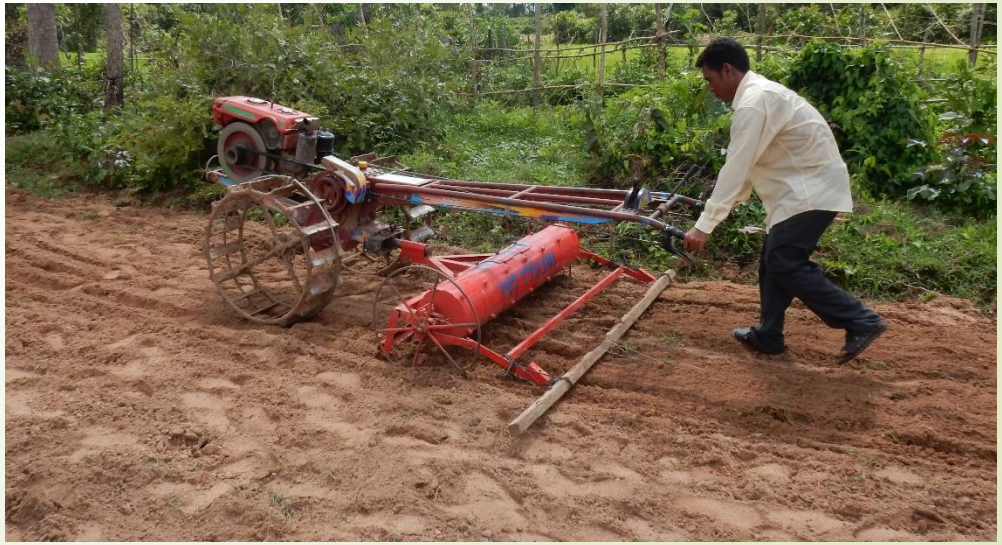




Climate resilient practices

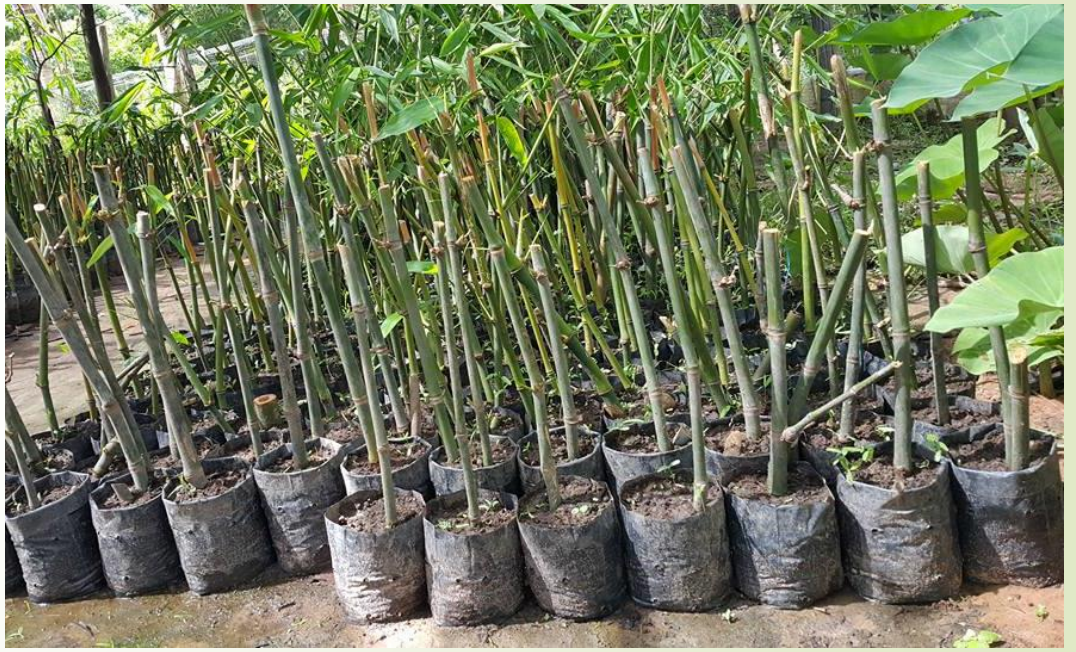
- Using the Farmer Field School as the entry point to learn and change to resilient farming practices
- Efficient use of water for farming
- System of rice intensification (SRI) mainstreamed by the improved knowledge of the impact of climate change.
- Improved soil fertility management and nutrient runoff.
- Thorough engagement with the farmers to link the impact of climate change with the farming practices and find out themselves the feasible practices for their locality.





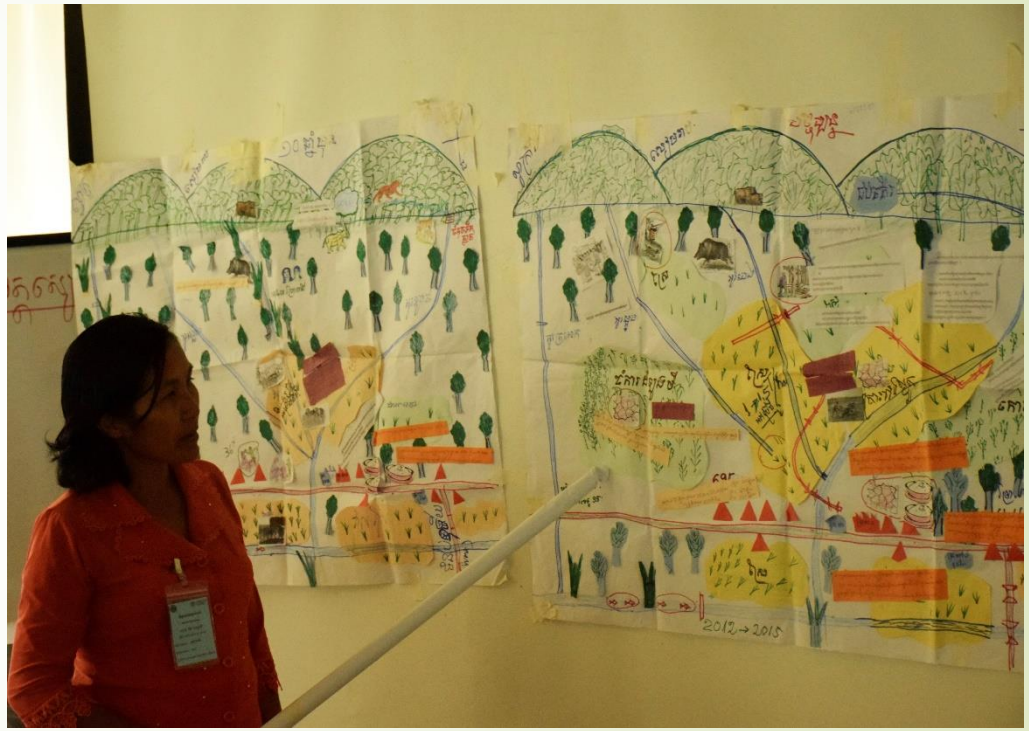
Women Producer Group (WPG)

- Social resource to improve women's status through economic empowerment and generating income.
- Groups that will function to support the market linkages and also to empower negotiation as well as building trust among the business network.
- Support the analysis of value chain study for major produce identified by the farmers including vegetable, chicken, bamboo and some specific NTFPs.
- Group saving and revolving fund – the success is determined by the commitment of members to repay their loan.



Lesson learned

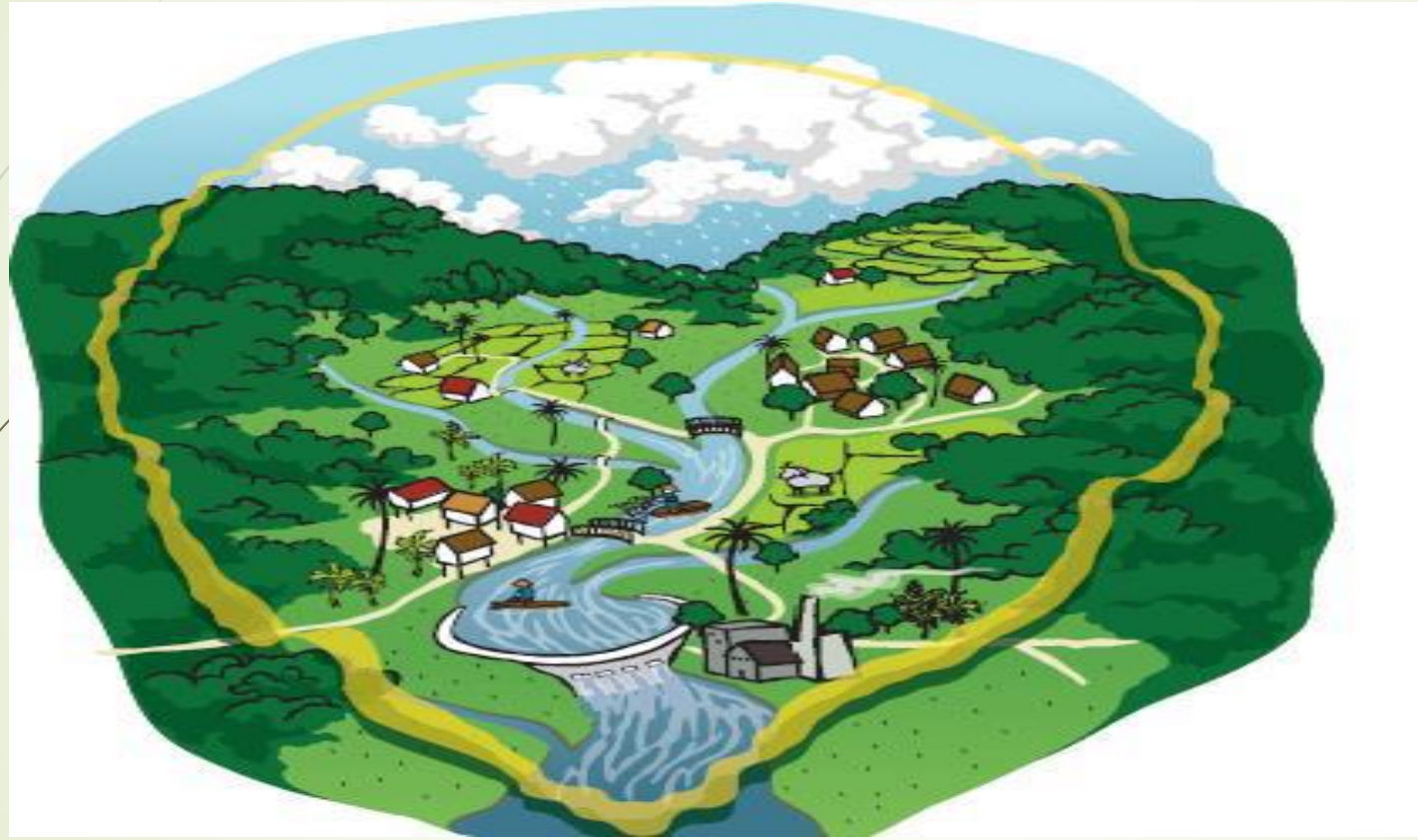
- Interactive participation of stakeholders shall empower and build motivation among the community members. This shall lay foundation for sustainability.
- Bottom-up planning process reduce the risk of conflicts especially between upstream and downstream areas.
- Building social capital within the community to respond to the climate change impact lay foundation for better integration of WSM activities.
- FFS is the right approach to learn and change to climate resilient practices given that the process taken is to engage and empower farmers to analyze and make decision.
- Youth will be the main driver of changes in resource management as well as adopting resilient practices, particularly among ethnic groups e.g. Ratanakiri.



Challenges

- Lack of involvement of private sector in the management of watershed.
- Conversion of forest land into farming land has been strong in recent year and vegetative regeneration is difficult to proceed.
- Orientation of all stakeholders to see the improvement of watershed as one harmonized approach – interactive linkages of one sector to another.
- Inadequate opportunities to diversify livelihoods especially non-farm options.

Thank you



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