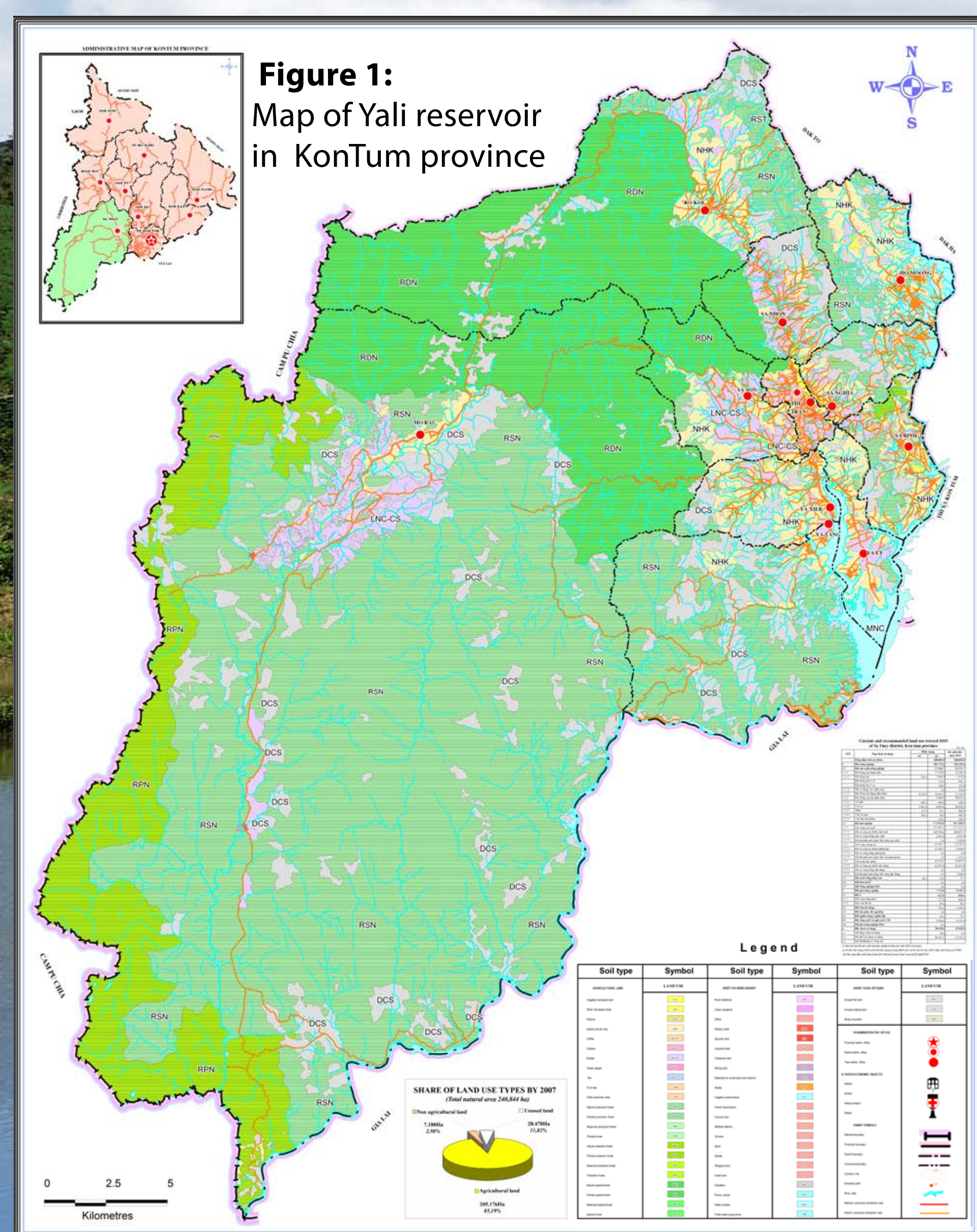


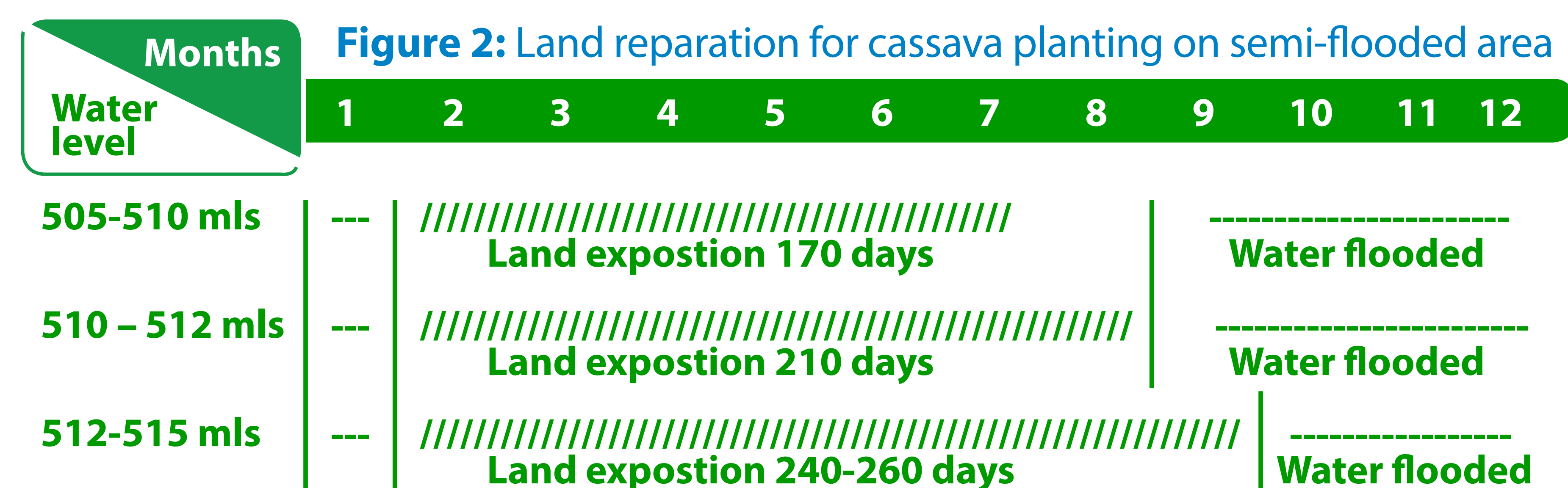
Reducing Risk

Improving Yield in the Drawdown Area of Yali Reservoir, Vietnam



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Background: Agriculture around the Yali reservoir is dynamic, market oriented, and with the dominance of rubber plantation and cassava cultivated by smallholder farmers. Yali reservoir's drawdown area represents around 600 ha of agriculture land cultivated, mostly with cassava, by about 500 households. Broad scale and livelihood surveys conducted under MK1 project showed that the drawdown area is highly productive and crucial to the livelihood of local farmers, but is a risky environment for cassava cultivation due to the short duration of land exposure (7-8 months) and the possibility of a sudden flood occurring at the end of the crop cycle.



Livelihood Pilot

Under the MK1 project Soils and Fertilizers Research Institute (SFRI) and Department of Agriculture and Rural Development (DARD) introduced a short term variety of cassava (KM 98-7) that can reach maturity after 7 months and give better yield and starch content. The on-farm pilot started with 3 farmers in 2012 (1.5 ha) in 1 commune and thereafter expanded to 36 farmers in 2013 (20 ha) in two communes around Yali reservoir. The results in both 2012 and 2013 were successful with regard to obtaining a higher yield (32 ton/ha) compare to 21 ton/ha for the commonly used variety (KM 94), in addition to a higher starch content (26% compare to 21% for KM 94). Higher yield and starch content were monitored in 2013.



Figure 3: Pilot trial in semi-flooded area



Figure 4: Yield monitoring at farm level

Stories from the field

Mrs. Nguyen Thi Hoa is a farmer from Yali Commune. Her family comprises of five members. She joined the pilot trial in 2013, expecting higher yield on her 0.5 ha cassava plot in the drawdown area. After one crop, the results were beyond her expectation with not only a higher yield (above 50 ton per hectare and 25 ton/ha in 2012), but also a higher starch content of the tuber (29% instead of a maximum of 25% with other varieties), which means a higher selling price. Mrs. Hoa decided to keep some stems to plant in her upland plot for next year. In the meantime, after the harvest she distributed stems to 10 neighbors and relatives in the commune to replicate stems for the crop in 2015 for her and the farmers involved in the replication of the stems. After this successful harvest she now plans to re-build her house and already invested in poultry with the additional income generated by the cassava crop.



Figure 6: Training and capacity building of local people



Figure 5: Mr. A Yieng a volunteer for the pilot from the Jarai ethnic minority group

Mr. A-Yieng, belong to Jarai ethnic group in Sa Binh Commune is the head of a household of seven members. Mr. A-Yieng joined the trial in 2013 after witnessing the results of the first trial in 2012. By joining this pilot he expected a higher yield and also to introduce this new variety to his ethnic community. The results of his trial were exceptional according to him. He estimates his yield about 10 tons higher than his past average yield with also a higher starch content. His net return from his trial of 0.6 ha of cassava allowed him to reimburse his loan contracted to face unexpected expenditure due to health issues. Mr. A-Yieng could not replicate the stems of the new variety due to the sudden flood of his field just after harvest. However, he will contact the network of farmers involved in the replication of this new variety for the next crop and his confident about the spread of this new variety within his community.

Lessons learned

Communication with Hydropower Company

The results of these trials would not have been possible without a better communication concerning the calendar of the water level. Involving the DARD in the project created a new communication network between local communities and the Yali Hydropower Company. The DARD frequently updated information concerning water levels in the reservoir and transmit this information efficiently to commune and villages.

Capacity building of local DARD staff

During the two years of trial, the local staff of DARD were involved in trial monitoring and contacting the hydropower company for updates on water level information. The involvement of local staff was considered a reason for success, with close and regular monitoring of the plots and communication with farmers. The local staff learned from working closely with national agency (SFRI) and received positive feed-back from local communities.

Replication of the seedling

With its successful results, the demand for stem of the new variety is increasing and the DARD expects the expansion of the cultivated area of KM 98-7 of about 400 to 500 ha by 2016-2017. However, the specificity of the drawdown area does not allow to re-use the stem due to the long period between harvest (August) and next planting season in February. The replication of the stem in upland area during more than one year (September/December to February more than 12 month later) requires the development of a farmer network, based on local and personal relationships.