SPEEDRICE PROJECT TECHNICAL AND SOCIOECONOMIC EVALUATION REPORT – SUMMARY

The report was released in November 2021 after about 6 months of field evaluation of the SPEEDRICE Project, funded by Innocent Foundation.

This project core activity is to promote the Zanatany intensive rice cultivation system that was developed by AKF in Madagascar.

A total of 471 smallholder rice farming households were surveyed, of whom 251 farmers were trained by the project and 185 had adopted at least the direct seeding at the time of the study. 82.6% of the surveyed households were CBSG members.

These 471 households are farming 1,201 plots of which about 81% are paddies and 17% tanety (hillsides) while only 2% are riverbanks.

In 97.5% of the farms, the same crop rotation system is repeated each year, while in 2.5% of them, the rotation sequence exceeds a full year.

Comparisons of the different levels of adoption of Zanatany between themselves did not show significant differences in yield, labor or added financial value. Yet it is to be noted that the samples were not comparable in size or representative and therefore these conclusions are only speculations.

In irrigated contexts, when compared to other rice cultivation systems, the Zanatany required slightly more labor in Sofia and Diana regions where random broadcast and random transplanting are widely practiced. It is significantly less demanding in labor than other systems in Analamanga region, and the least demanding in Itasy region. No clear explanation can be given to this.

In rainfed contexts, the Zanatany is reported to be more demanding in labor, but without providing clear explanations.

Overall, it appears that in regions where the Zanatany has been implemented more than 2 years, the overall labor requirement is significatively inferior to all the other rice systems.

No difference in terms of animal labor is observed at this stage between the Zanatany and other systems which is easily explained by the fact that minimal to zero tillage stage has not yet been reached by adopters.

More than 80% of the rice plots under Zanatany are fertilized using organic manure, which is significantly more than other systems.

Already at this stage of the promotion of the system, Zanatany displays similar yields as the most performant systems widely promoted to date: SRI and SRA.

At this stage, where not all principles of the Zanatany have been adopted, the Zanatany displays though a ratio yield/labor very similar, which allows to anticipate better performance once all principles have been adopted.

The Zanatany system is reported as the most efficient one alongside SRI in terms of seed use efficiency, which aligns with claims from farmers declaring that they reduce by 80% their seed use with it.

The study has not been able to point out significant difference in the cycle length though Zanatany appears to be shorter than SRA but longer than SRI. At this stage, the sampling size and significances are not sufficient (and the difference between SRA and SRI is already very hard to explain).

In irrigated cultivation, the Zanatany is reported as the system that brings the highest added value, at more than 10% above the second most performant one, SRI. The same ranking shows in rainfed rice, though not significant at this stage.

Overall, 82,7% of the adopters over only one season claim that they have benefited from transitioning to the Zanatany. The main advantages reported by decreasing order of importance are (1) significant reduction in seeds (68.3%), (2) high level of tillering in rice plants (67.5%), (3) early maturing/short cycle (29.2%), (4) reduced labor (25.8%), (5) low caryopses abortion (18.3%), (6) increased tolerance to drought (14.2%), (7) reduction in water use (4.2%).

Out of the 145 early adopters that have been surveyed, only 25 have declared not having benefited from the adoption, but systematically for external reasons (unpredictable climate, decided to only experiment at small scale, poor seed quality, pests, diseases…).

Out of the 40 adopters over at least 2 years that have been surveyed, 82% declare a gradual increase in yields, 2.5% a gradual decrease in yields, and 15% a yield fluctuation, largely due to climate fluctuations.

Overall, the study concludes that:

- Whether irrigated or rainfed, Zanatany reduces the need for seeds
- Whether irrigated or rainfed, Zanatany rice displays more precocity than other systems, regardless of the rice varieties
- Labor productivity is higher with the Zanatany compared to any other system
- Whether irrigated or rainfed, Zanatany rice provides a higher profit to farmers than other systems
- Individually, no significant difference between various levels of adoption of principles of the Zanatany have been pointed out, yet in combination, the principles show a clear tendency to yield and productivity increases. Though more studies would be necessary

Out of the 251 adopting households surveyed, 82.5% (207) declare being very satisfied, 13.1% (33) overall satisfied, 3.2% (8) not satisfied, while 1.2% (3) declined to express themselves.

It appears that the combination CBSG-Zanatany due to the improved financial literacy and access to finance of the CBSG and the increased productivity obtained from Zanatany can clearly be considered as a very good strategy to boost smallholder rice farmers financial capital and economic resilience.

Though the system is relatively new, and adoption of all principles has not yet been reached, the results are very promising and could inform 2 orientations: (1) make Zanatany principles components of existing rice cultivation systems, (2) continue to build Zanatany as a distinctive intensive rice cultivation system that could contribute to farmers prosperity.

The Zanatany, through its strong integrative approach (other crops, livestock, agroforestry) represents a good incentive for farmers to diversify their farming models and become more resilient.