

Benefits of mechanized maize shelling technology in Tanzania

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Technology description



- Maize shelling is one of the labor-intensive and arduous post-harvest activities among farmers in Tanzania.
- Labor availability uncertainties delays grain processing for storage leading to post-harvest losses and poor quality.
- There are possibilities to mechanize maize shelling, reduce drudgery and impact food security, welfare and nutrition.

SIAF-Based benefits

Mechanized shelling enhanced grain quality by 38–81%, improved labor efficiency by 77–90%, and reduced drudgery by 58–74%. The perceived benefits as revealed by a qualitative exploration are shown in Fig.1.

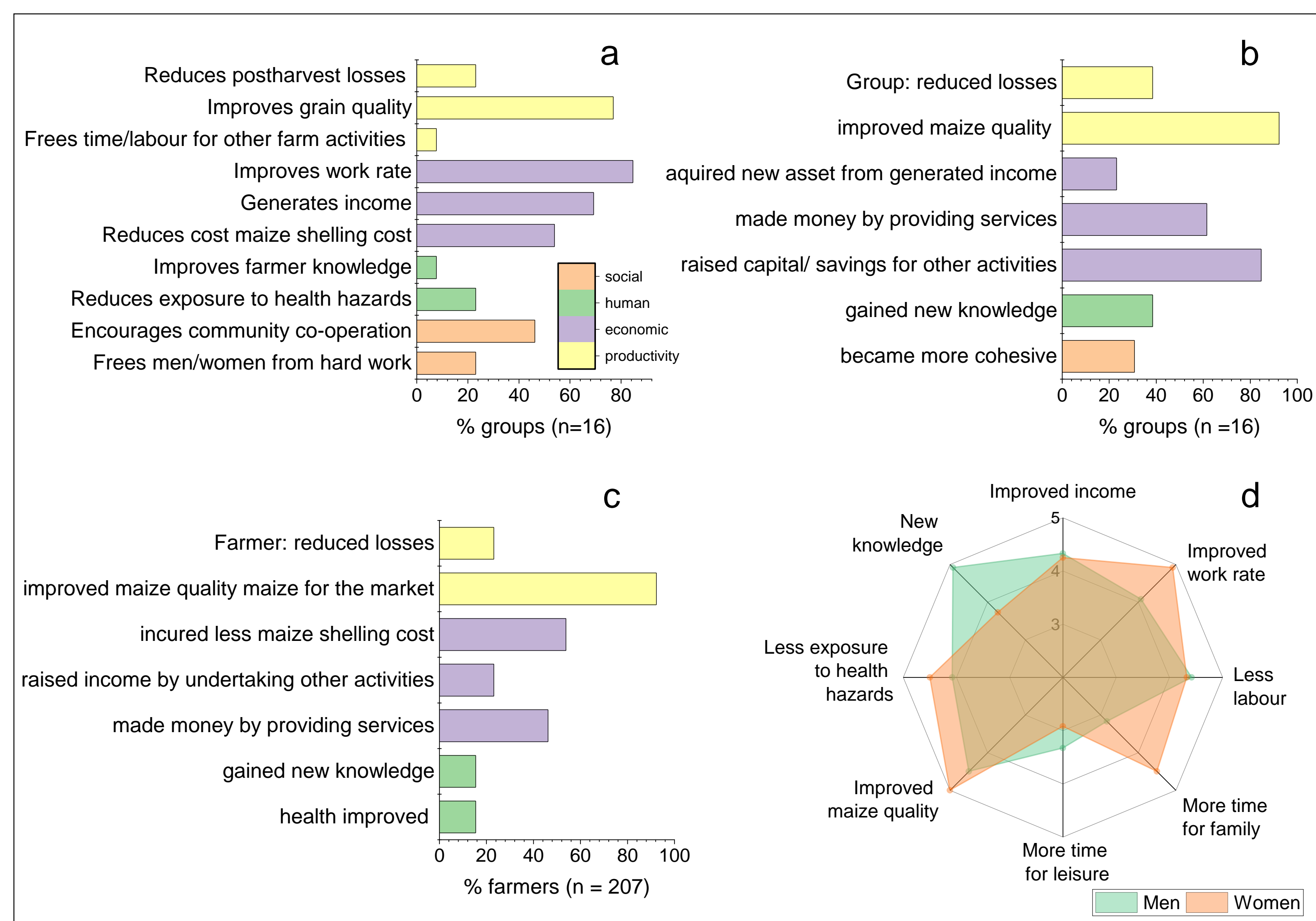


Fig 1: (a) What farmers perceive to be the key benefits of mechanized maize shelling; (b) how producer groups actually benefited from mechanized maize sheller; (c) How individual farmers benefited from maize sheller; (d) ranking of some of the benefits by male and female users.

Fig 2 show the benefits on food security, welfare , and nutrition

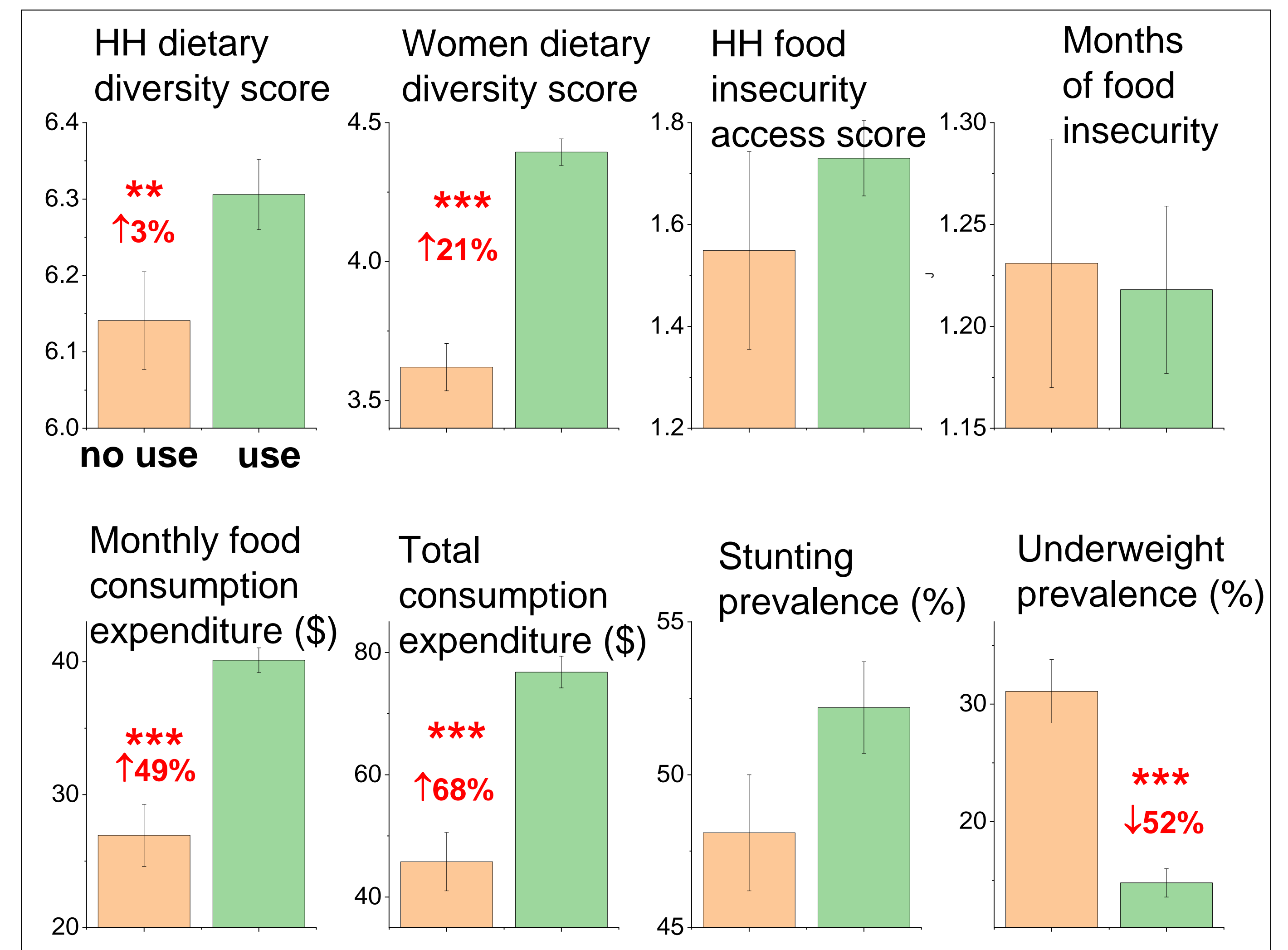


Fig. 2: Quantitative impacts (n=249 users; 330 users)

Lessons learned

1. Mechanized shelling addressed time and labour constraints of male and female farmers in gendered ways.
2. Improving farmers organizational arrangements is key to ensuring equitable use of the machines at affordable cost.

Challenges and gaps

1. Models to introduce and scale-up post-harvest mechanization that address multiple functions in mixed farming systems.
2. More qualitative research needed to generate evidence of how smallholder farmers utilize freed time/labour and trade-offs that exist.
3. We see impacts on dietary diversity and nutritional status of children. Research needs to elucidate more clearly the pathways involved.

Deliverables

- <https://doi.org/10.1017/S1742170521000016>
- <https://doi.org/10.1016/j.jspr.2019.101517>
- <https://doi.org/10.1016/j.jspr.2021.101918>
- <http://dx.doi.org/10.1079/9781800621602.0007>

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