fertilizer, feeds, wheat, etc.) that are currently at risk.

(World Bank, 2014 as cited in FAO, 2023)

Filipino smallholders are included in 80% of the world's farmers operating on less than two hectares of land although majority of the Filipino farmers have farm sizes of less than a hectare (NEDA, 2023; PhilRice, 2016). The aggregated farms of the world's smallholders form

produced in Asia and sub-Saharan Africa accounts for an

al., 2014). Despite their pivotal role, smallholders grapple with multifaceted challenges jeopardizing their livelihoods and food security, e.g., limited access to resources, markets, and technology. Further, their situation is exacerbated by climatic variability, health risks, fluctuating prices, and financial instability, thus further increasing their vulnerability (Fan & Rue, 2020).

Nevertheless, there is optimism that smallholders could be part of inclusive growth and the creation of more





triangulation was done through interviews with subject matter experts and document review from scholarly literature, statistical reports, authoritative global reports, and news accounts for currency of information (Eisenhardt & Graebner, 2007; Yin, 2018). Please see Table 1 for the





demo farms as proof that pesticides are unnecessary. After harvest, the seeds could be replanted, unlike the hybrid seeds provided by the Department of Agriculture, which have the GURT technology, making the seeds produce a high yield only for the first planting. GURT was instituted as an intellectual property safeguard for the companies that spent on researching and developing the different high-yielding varieties (Lombardo, 2014). MASIPAG considers this empowerment as the farmers would not be tied to buying seeds, fertilizers, and pesticides for every planting season, as traditional seeds could be replanted over and over again, even by the next generations. Because of biodiversity, the crops also do not attract pests, and fertilizers can be produced organically, thus freeing farmers from the initial high costs of farming inputs (personal communication, November 25, 2022).

Other documented ways of farmer empowerment through Climate-smart villages, which Consultative Group implements on International Agricultural Research (CGIAR), a global partnership of various organizations aimed at global food security. Like the MASIPAG method of introducing technologies, farmers are allowed to try them in demo farms, ably guided by technologists to guide them. Through farmer learning groups, farmers can evaluate the technologies and give feedback to one another. They are then allowed to make the choice as to what technologies they will incorporate into their farming systems. With the technology transfer, some farmers are provided opportunities for other income (CCAFS, 2013).

Farmer-Entrepreneur model. From one of the earliest propositions, Shane and Venkataraman (2000) proposed that entrepreneurship is discovering an opportunity, deciding to exploit it, and then exploiting such entrepreneurial opportunity to create future goods and services.

kaparleante vertical problem and the sisters from an impoverished rice-farming family, decided to continue farming in their hometown. As for all his siblings who also did not finish higher education, they opted to move away and work in facton BT/F1 11.52 Tf1 08nBT/F1 11



He chose to be an independent entrepreneur due to several of his observations back then. He related several important insights that somehow contributed to the deplorable conditions of rice farmers: (1) Middlemen controlled the farmgate prices; (2) Their farmer cooperative went bankrupt as many farmers borrowed money but did not fulfill their contractual obligations; (3) On the side of the government, he expressed a lack of trust as he observed corrupt practices such that the assistance did not arrive in a timely fashion, e.g., planting season is in January to March, but the assistance would arrive in November-December when planting season was over and; (4) He also claimed that as the farmer association president, he witnessed how the promised financial help slowly gets diminished as it gets passed down from the levels of the municipality, the barangay and then, to the cooperative. He claimed that only 20% of the benefits reach the farmer association.

Contract farming model. Contract farming is a type of farmer-entrepreneur model, but this is primarily based on the community. It presupposes a cooperative endeavor among community members to deal with entities, whether government or non-government organizations, which assure the existence of a market.

very important for the continuity of endeavor.

In Quezon, *Ka* Ernesto (not his real name), age 62, was offered a dairy farming contract with 16 other community members. They were given either cows or carabaos for breeding and milk production. The milk production provided the daily income as they were brought to a processing plant to produce chocolate milk. The contract stipulates that when the calves of the cows and carabaos were sold, the farmer and the contractor split the proceeds. After ten years, the original parents already become the farmers' property.

In the fourth and last farmer upliftment model of this research is another type of contract farming model wherein the farmers were assured of a market for their

nationwide system of selling fresh produce in highdemand areas to serve communities with low-income





6 Conclusion and Recommendations

Important learnings that can be gleaned from this multiple case study are as follows:

6.1 Role of LGU leadership in the end-to-end value chain

While this study's scope does not include country-level infrastructure support to agriculture, e.g., farm-to-

to transfer the burden of drying newly harvested rice from the smallholder farmer to NFA or a more appropriate government body. In the RCEF program of the DA, machinery like drying machines is provided. This may also help standardize the quality of rice that goes to the market and is stored for emergencies and uplift farmers who indicated drying of newly harvested rice as one of their challenges due to the lack of space or facility.

Research on other models of partnerships of the public, private, and non-government non-profit that uplift farmers and other marginalized sectors of society while discouraging corrupt practices. Policies on corporate social responsibility and collaboration with government agencies could encourage the private sector to engage.

References



