Malnutrition, both micronutrient and overall calorie deficiency, remains a large problem across India, particularly among women and children in rural areas. In response, nutrition-sensitive agriculture (NSA) programs have emerged, which promote crop diversification, homestead vegetable production, and nutrition education alongside women’s empowerment. This paper examines how one large livelihoods non-governmental organization (NGO) working in tribal regions in the Indian states of Madhya Pradesh and Jharkhand has attempted to address malnutrition through incorporating NSA practices into its traditional focus of improving staple cereal productivity and income. In both sites, the last decade has seen agricultural practices shift from a mix of traditional rice and various coarse cereals to primarily higher-yielding rice grown using improved seeds, modern agronomic techniques, and chemical fertilizers. Many farmers have improved yields using these labor and capital-intensive methods, which has led to increased rice production and consumption. Improved rice cultivation has thus also become an aspirational practice that farmers strive towards, though the resource poor remain largely unable to practice. Taking an ethnographic approach, I conducted 11 months of participant observation and over 100 interviews with farmers and NGO and government workers across both sites. I found that all respondents reacted positively to the tenets of NSA promotion. However, due to a combination of improved paddy’s labor requirements, monsoonal unpredictability, and cultural aspirations to maximize rice production, most farmers (especially those engaged in improved paddy cultivation) were unable or unwilling to employ the prescribed practices of diversification in a substantive way. As NSA development programs are still emergent, little research has detailed the ways such efforts may exacerbate or allay existing rural inequalities. This research shows that relatively poorer farmers are well positioned to cultivate nutrition-rich crops such as oilseeds, pulses, and millets, which also require minimal water and chemical inputs. The main barrier is that these crops are seen as traditional, and thus inferior, to modern paddy cultivation practiced by wealthier counterparts. This study suggests NSA could have positive impact on reducing rural inequality, if, in addition to addressing production techniques and marketing linkages, programs actively work to redress the cultural barriers against growing nutrition-rich crops.