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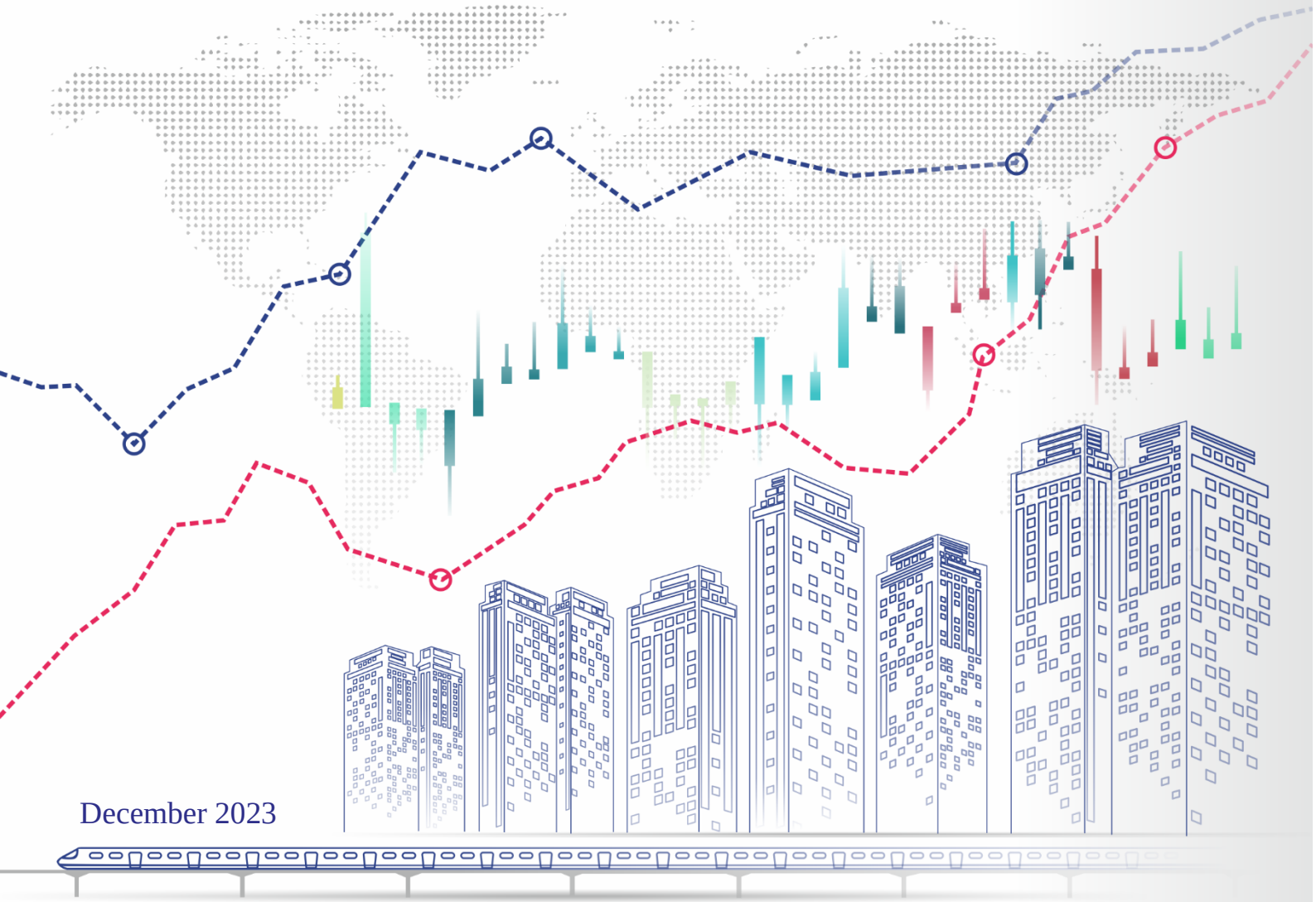
IIMA-SFarms India Agri Land Price Index

Cultivating Value

ISALPI | December 2023 Release

Prashant Das * & Poorvi Anchalia§



December 2023

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Prashant Das[1] & **Poorvi Anchalia**[2]

OVERVIEW

Land plays a pivotal role in agriculture and the economy, especially post-2008, where farmlands have become a sought-after financial asset with strategic importance. Ownership of farmlands offers consistent yields, tax advantages, and diversified revenue sources, making it a good investment for long-term growth. The Indian agriculture sector faces challenges exacerbated by impacts of climate change, changing patterns in debt, migration and land acquisition dilemmas where the delicate balance between promoting industrial growth and safeguarding farmers' livelihoods needs careful consideration. Comprehending the fluctuations in land prices is essential, although it becomes a tough endeavour due to the multitude of elements that impact the land value. The IIM Ahmedabad – SFarms Land Price Index December 2023 release (latest update from September 2023) offers regional insights into land price trends. It highlights the need for regular monitoring of the market dynamics to make informed decisions. Caution is advised as the index's values may change with new data.

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1 Introduction

Land remains a key factor of production in any economic activity, be it in agriculture, manufacturing, or services. In agriculture, where the industry accounts for only 19% of the GDP, over two-thirds of the people rely on it for their livelihood;[3]the wealth enhancement of these landowners primarily depends on land price appreciation (Das, 2022). Following the 2008 financial crisis, farmlands have been more sought after as a financial asset. The convergence of food and financial crises in 2008 transformed agricultural land into a newly significant strategic asset (GRAIN, 2008). Holding agricultural land offers stable returns, tax benefits, and diverse income streams, thereby making it attractive for long-term wealth growth.

Over time, however, farm sizes in India have been decreasing (Singh, 2006). The 2014 census suggests that two-thirds of agricultural land holdings in India are below 0.4 hectares (Kishore et. al. 2019). According to Das & Ganesh-Kumar (2018,p.3), "a farm size of less than a hectare, irrespective of its efficiency, will not be able to generate large marketable surpluses and thus may hold only a limited livelihood potential." As a result, large-scale commercial farmlands are becoming attractive.[4]Larger-scale farming can be achieved through various means: consolidation of land holdings, contract farming, or corporate farming (Singh, 2006). In the India- Kenya Summit of December 2023, Kenya proposed to provide agricultural land to Indian enterprises[5] that, if materialized, could open doors for large-scale farming, but outside India.

Climate Change

Climate change has adversely affected the Indian agricultural sector. Debt and migration rates have increased. Additionally, the growing link between climate change and farmer suicides is also concerning. According to a recent study from the International Institute of Environment and Development (IIED), farmer suicides increased during dry spells in the states of Chhattisgarh, Karnataka, Madhya Pradesh, Maharashtra, and Telangana.[6] To

[3]https://pib.gov.in/FeaturesDeatils.aspx?NoteId=151185&ModuleId%20=%202

[4]https://www.financialexpress.com/money/current-market-trends-and-projections-for-farmland-values-in-india-for-investment-3276408/

[5]https://www.financialexpress.com/business/defence-india-kenya-summit-strengthening-bonds-through-agricultural-investments-defence-cooperation-and-digital-collaboration-3328989

[6]https://www.iied.org/climate-change-driving-increase-farmer-suicides-india

increase the yields, some farmers use chemical fertilisers. In India, where 25% of the yields are lost to pests and insects, quaint regulations on pesticides[7] require policy modernization.[8]India's agricultural sector reached 52% irrigation access in 2022-23, up from 41% in 2016, driven by initiatives like the Pradhan Mantri Krishi Sinchai Yojana and Accelerated Irrigation Benefit Programme which helped mitigate the impact of erratic monsoons on dryland agricultural zones, improving water-use efficiency.[9] The state government of Uttar Pradesh has recently approved Rs.57 Crores to improve the soil health of barren and rugged lands.The use of technology in the form of agronomic treatments, genetic engineering, crop nutrition and protection can help with increasing productivity and sustainability in agriculture.[10] As land is the most critical input to agriculture, fair implementation of policy or entrepreneurial interventions requires a robust understanding of movement in agricultural land prices.

Land Acquisition

Land acquisition of agricultural land stems from numerous motivations: infrastructure development, urban expansion, or for profit. Ease of land acquisition for infrastructure development has been a contentious issue. For example, farmers in over a dozen villages around Cheyyar (Tamil Nadu) continue to protest SIPCOT Phase-III land acquisition, emphasizing a year-long dispute, arrests, and a conflict between industrial growth and adequate compnesation for farmers' livelihoods.[11]States in India adhere to different rules for the acquisition of agricultural land by non-agriculturists.While a few states have no restrictions, certain States exercise restrictions in the form of ceiling limits, control on change in land use or require approvals from the official authority.[12]

[7]India has drafted a new Pesticides Management Bill 2020 to replace the existing 1968 Insecticides Act and 1971 Insecticide Rules

[8]https://www.businesstoday.in/latest/in-focus/story/policy-imperative-to-crop-protection-in-indian-agriculture-408177-2023-12-04

[9]https://www.hindustantimes.com/india-news/indias-cultivated-land-gets-boost-from-micro-irrigation-expansion-to-mitigate-climate-crisis-impacts-101685299658339.html

[10]https://indianexpress.com/article/explained/explained-economics/agriculture-production-india-factors-boost-explained-9044040/

[11]https://www.thehindu.com/news/national/tamil-nadu/the-controversy-over-land-acquisition-by-the-sipcot-near-cheyyar-town-in-tiruvannamalai-tamil-nadu-explained/article67546954.ece

[12]https://www.thehindu.com/real-estate/investment-agriculture-land-india-properties/article67384229.ece

ISALPI

Clearly, agricultural land valuation has become a critical issue, especially in a few South Asian countries like India, Pakistan, and Bangladesh, where land acquisition has often led to controversies (Awasthi, 2014). Land price variations are caused by a multitude of factors, including transportation network, access to the land parcel, travel time to the urban centers (Sklenicka et al., 2013), and land-specific characteristics such as the location of the land and its productivity (Awasthi, 2014). The effect of such factors underscores the importance of tracking land prices from a policy perspective.Given the number of determinants involved in agricultural land valuation, tracking movements in pricing becomes an analytically challenging task.

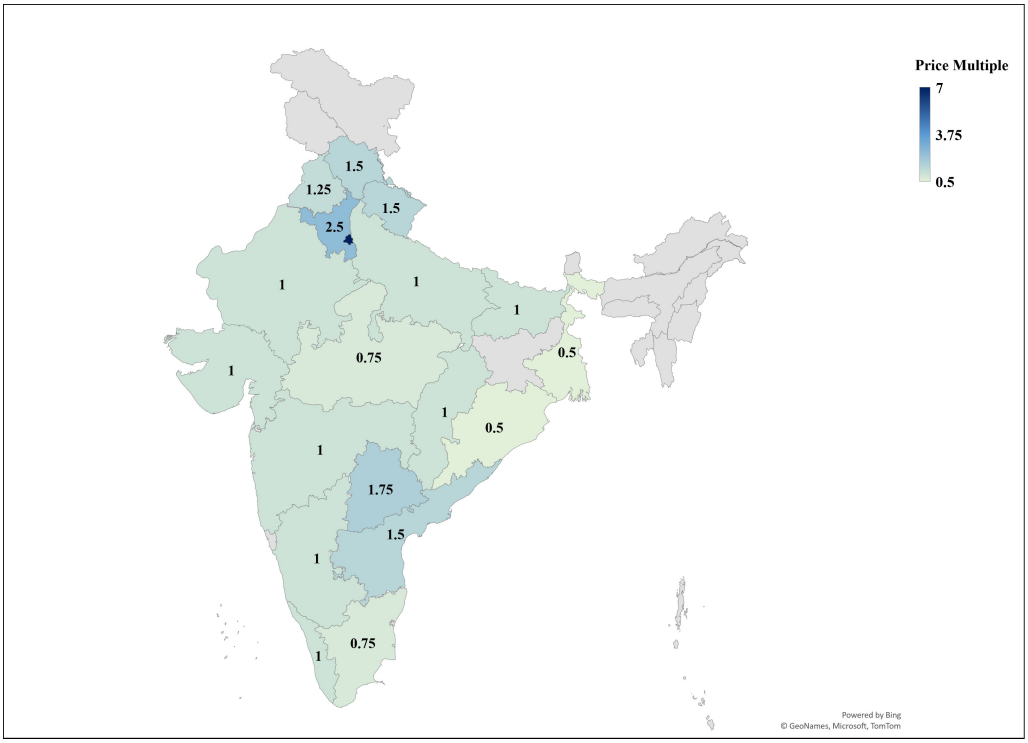
The IIM Ahmedabad-SFarmsIndia Agricultural Land Price Index (ISALPI) was launched in 2021 to bring transparency to price movements in agricultural land prices in India.[13] This report presents the latest (Sept 2023) update of the monthly ISALPI.

2 Regional Variation in ISALPI (2019 Jan - 2023 Sep)

The analysis of agricultural land listings offers some regional insights into the pricing and associated characteristics that influence the value of the land. Note that the regional differences in pricing are based on an exercise wherein the quality differential across parcel attributes is controlled for using econometrics. Thus, the relative pricing would apply to a land parcel with a specific set of attributes but located in different states.

[13]For further details, visit:https://www.iima.ac.in/faculty-research/centers/Misra-Centre-for-Financial-Markets-and-Economy/ISALPI

Figure 1: ISALPI Agricultural Land Price Multiples of Selected States



Source: Prashant Das
Note: Multiples are based on ISALPI analytics.

On the assumption that the attributes of the land parcels are otherwise similar, **Figure 1** reveals variation in the average pricing of the land parcels. The northern states such as Delhi, Haryana, Punjab, generally have higher pricing compared to states in the southern and eastern regions like Tamil Nadu, Odisha, and West Bengal.

Proximity to airports and accessibility to urban centres may have an impact on the land value. Delhi, with the highest farmland pricing (700 lakhs on average), is not only the costliest but also has the shortest average distance (**Table 1**) to both the nearest airport (15 km) and urban centre (7 km). This proximity likely reflects the high demand for land close to urban centres and transportation hubs. In contrast, states like Odisha and Rajasthan, with lower agriland price multiple, have relatively longer average distances to both airports and towns.

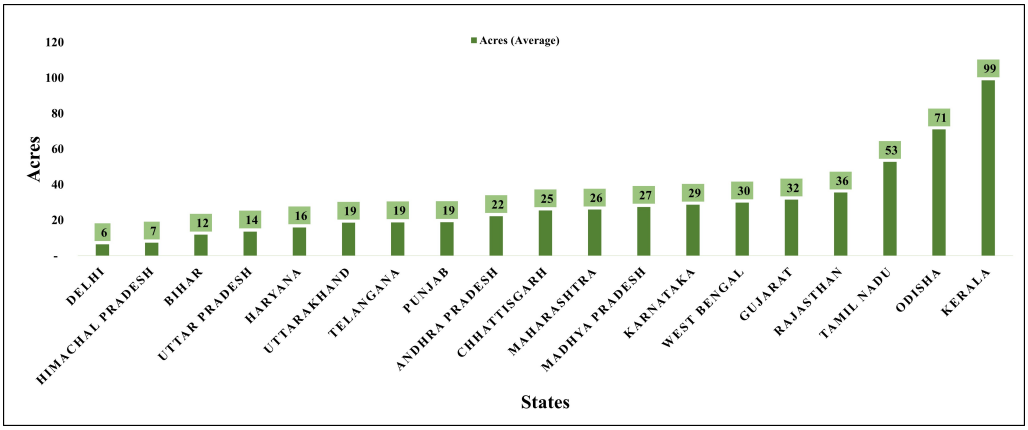
Table 1: Average Distance from Land Parcel(Km)

State	Nearest Airport	Nearest City/Town
Delhi	15	7
Punjab	33	18
Uttarakhand	38	22
Haryana	48	17
Himachal Pradesh	49	32
Kerala	52	23
Tamil Nadu	52	29
Gujarat	53	31
West Bengal	54	28
Chhattisgarh	56	24
Uttar Pradesh	64	23
Karnataka	65	33
Madhya Pradesh	68	31
Maharashtra	70	39
Andhra Pradesh	71	37
Bihar	75	21
Telangana	79	35
Rajasthan	95	37
Odisha	103	38

Source: Authors

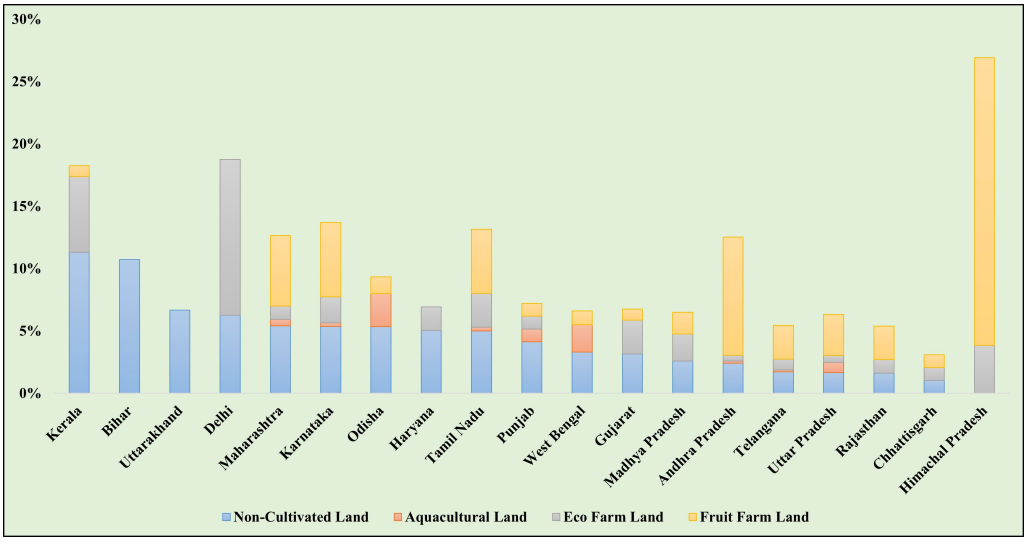
Additionally, **Figure 2** indicates that high agriland prices in Delhi, coupled with its small average acreage (6 acres), reinforce the notion that small, strategically located parcels close to urban centres command a premium. States like Kerala and Odisha, with larger average acreage, may attract investors seeking more extensive agricultural holdings, potentially for plantation or large-scale farming.

Figure 2: Avergae Acres of the Land Parcel



Source: Authors

Figure 3: Type of Farmland

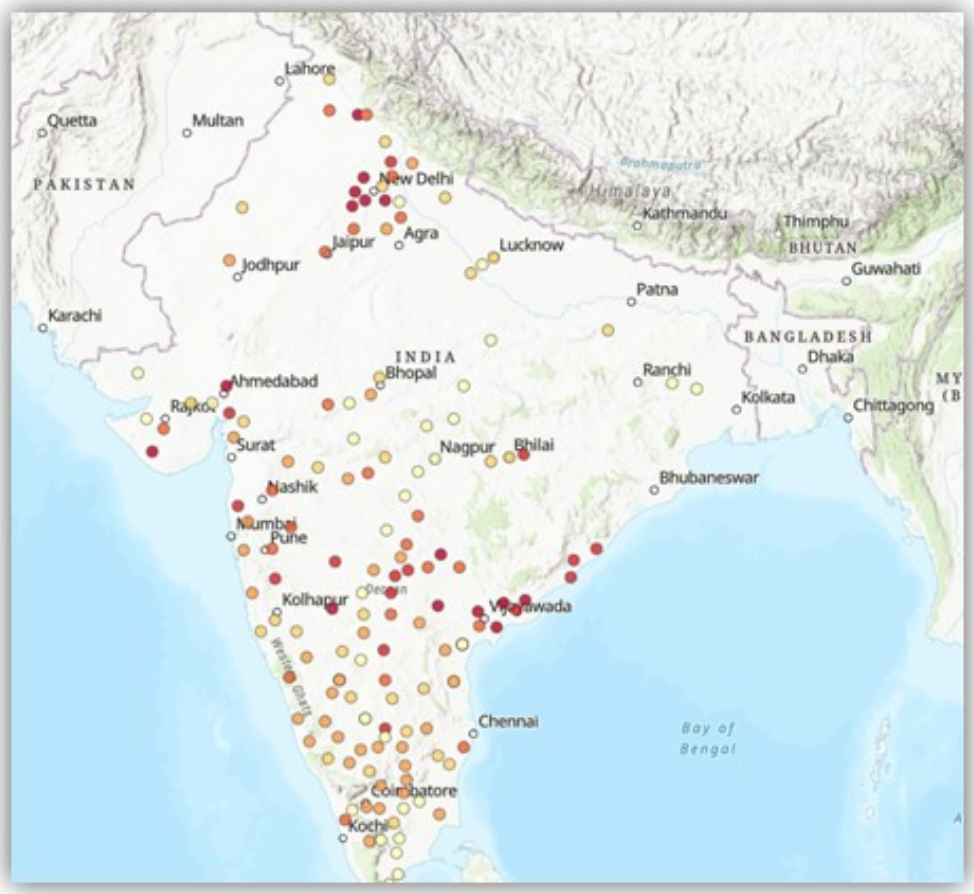


Source: Authors

Figure 3 highlights the diverse approaches to agriland use across states, reflecting local priorities, environmental consciousness, and economic considerations. States like Kerala, Bihar, and Uttarakhand, with higher percentages of non-cultivated listings (11%, 11%, and 7% respectively), may indicate a potential for diversification of land use. Aquacultural listings are more prominent in states like Maharashtra, Karnataka, and Odisha, indicating a strong emphasis on water-based agricultural practices. In Himachal

Pradesh 23% of agricultural land listing is specifically for fruit cultivation, demonstrating a notable focus on horticulture. The absence of non-cultivated land listings in Himachal Pradesh further points out a concentrated effort on productive land use for agricultural purposes.

Figure 4: ISALPI Agricultural Land Price Multiples of Selected Districts



Source: Prashant Das
Note: Darker dots imply higher prices for land parcels of a given quality. For interactive map on ISALPI District Ranks Sept(2023) visit here.

Based on the assumption that the land characteristics are similar, **Figure 4** shows that agricultural land prices in the national capital region (and surrounding areas), in general, are high except in Ghaziabad (UP). For example, Gurugram (Haryana) has the highest multiple of 5x followed by Rewari (Haryana: 3.75X), and Gautam Budh Nagar (UP: 2.75X). Prices in several

other districts across India have high multiples e.g., Khammam (AP), NTR-AP, Rangareddy (Karnataka) at 2.25X each; East Godavari (AP), Eluru (AP) and Gandhinagar (Gujarat) at 2X each; and Bijapur (Karnataka), Karimnagar (Telangana), Nalgonda (Telangana) at 1.75X each. Prices in Bharuch (Gujarat), Coimbtore (Tamil Nadu), Mathura (UP), Jodhpur (Rajasthan), Raigad (Maharashtra), etc. are at a price multiple of unity (1X). In several districts, the price multiples are low: Ghaziabad (0.75X), Lucknow (0.75X), Vadodara (0.75X), Ahmedabad (0.5X), Satna (0.5X), Wardha (0.25X), Purulia (0.25X), etc.

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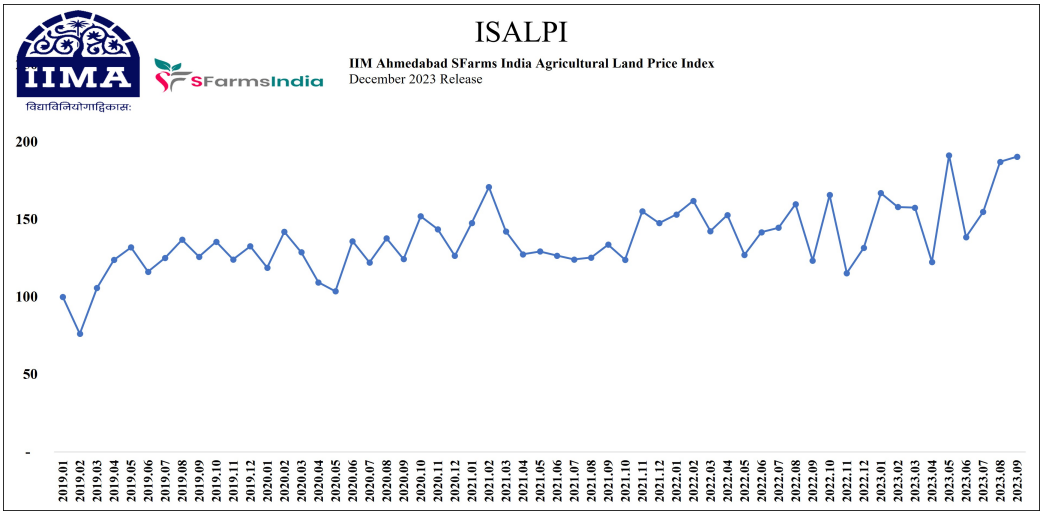
Figure 5: ISALPI



Source: IIM Ahmedabad with support from SFarmsIndia

The recent release of the ISALPI index[14] reflects noteworthy trends in farmland prices. Across 2022 and 2023, the index displayed dynamic fluctuations, underscoring the inherent volatility in the agricultural market. A general uptrend from 2019-2021 is followed by more variability in 2022 and 2023. In 2022, diverse trends show notable peaks in January but also experienced a downturn in the latter part of the year, particularly in November and December. The index exhibits increased fluctuations with a mix of positive and

[14]based on latest update from September 2023

negative movements, featuring a remarkable 35% surge in May and a significant 52% TTM appreciation in August. The volatility in the index throughout the year suggests dynamic influences on agricultural pricing. Contrasting patterns throughout the year reiterate the need to regularly monitor market dynamics and external variables impacting farm prices to help stakeholders make educated choices and adjust tactics.

Table 2: Growth Rates

Since	Cumul. Monthly Growth Rate	CAGR
2019 Jan	1.20%	14.80%
2020 Sep	1.20%	15.20%
2021 Sep	1.50%	19.40%
2022 Sep	3.70%	54.30%
2023 Sep	1.50%	19.20%

Source: Prashant Das

Between January 2019 and September 2023, the annual appreciation in ISALPI was around 15%. In 2023, the index already appreciated by 19% until September. As ISALPI is a young index, it must be interpreted carefully. With the arrival of new data, the index values may change.

About:
The IIM Ahmedabad-SFarmsIndia Agricultural Land Price Index (ISALPI) is a monthly,"Constant-Quality" price index of Agri Land Price in India, developed by IIM Ahmedabad in collaboration with SFarmsIndia. It provides a comprehensive view of the evolving Agri Land prices in India, focusing on capital appreciation. ISALPI uses a hedonic pricing method, which involves a regression model from past listings data, resulting in unique index values for each period. The index's quality is expected to improve with new data.

More information on its use, methodology, and limitations can be found here. https://www.iima.ac.in/faculty-research/centers/Misra-Centre-for-Financial-Markets-and-Economy/ISALPI

DISCLAIMER

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