

# Digital Agricultural Management Systems and FISP Performance in Zambia 2017-2024

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Received: 24/11/2025 | Accepted: 06/01/2026 | Published: 17/02/2026

**Abstract:** The delivery, traceability and accountability of public agricultural support programmes are also being improved through the use of digital agricultural management systems. The paper will assume the correlation between the digitization of the district level and production by the Farmer Input Support Programme (FISP) in Zambia in the period between 2017 and 2024. It has been analyzed using the provided dataset of districts by year, which has 110 districts, 9 regions, 8 years and 880 observations. Aggregation on an annual basis, regional analysis, quartiles of technology-intensity and correlation analysis were implemented to measure the change in programme delivery, beneficiary integrity, adoption and cost indicators. The findings demonstrate tremendous administrative changes in the course of time: the average input efficiency rose to 87.44% in 2024 compared to 66.71% in 2017, whereas targeting accuracy grew to 93.67% in 2024, as opposed to 72.92% in 2017. The technology coverage has also increased by 20.00 percent to 86.28 percent, the digital coverage by small farmers has risen to 35.61 percent to 88.38 percent, the duplicate detections have fallen by 45,062 to 9,205, and the cases of fraud have also fallen by 2,086 to 328 within the same period. The administrative cost per registered farmer has decreased by 4.51 to 2.30, while the digital investments per registered farmer have increased by 0.45 to 2.51. The regional analysis has shown that the general performance in terms of delivery and cost was better in Lusaka and Southern provinces as compared to the Western, Luapula, and Northwest provinces. The increase in yield on its part was quite stable, though, which implies that digitization strengthened programme governance more obviously than agronomic output. The article concludes that there was a high correlation between digital management systems and the enhanced targeting, less leakage, widespread adoption, and less administrative costs of the unit, but the degree to which those gains can be transformed into production outcomes remains conditional on agronomy, access to markets, and rural infrastructure.

**Keywords:** Digital agriculture, FISP, Zambia, agricultural management systems, performance evaluation.

## I. INTRODUCTION

The digitalization of agriculture has ceased to be a niche topic on the innovation agenda, and it has shifted to become a core issue in the agrifood systems since it has the potential to enhance the flow of information, coordination, traceability, and service provision along the production, extension, logistics, and markets value chains [1], [2]. Africa has provided evidence that, compared to other regions, relatively simple digital tools can enhance market participation and affect farmer behaviour where supportive institutions exist and when connectivity is available, for example, mobile-enabled information systems [3], [4].

The Farmer Input Support Programme (FISP) is one of the most visible agricultural policy tools in the context of subsidized access to inputs by the small holders in Zambia. In recent official directions, FISP and its evoucher modality remain an important tool of enhancing access to agricultural inputs by beneficiaries and expanding the choices of farmers by means of more effective distribution processes [5]. Meanwhile, the programme has been under fire due to excessive fiscal cost, inefficient targeting, leakages and implementation inefficiencies [6]-[9].

Digitalization promise in FISP is thus not a far-fetched

concept. It touches upon definite administrative issues: determining who the right beneficiaries are, minimizing multiple registrations, decreasing transaction costs, enhancing redemption transparency, and increasing the function of the private agro-dealer. Initial policy development in Zambia contended that an electronic voucher strategy would enhance both the level of timeliness and reduce the standardization issue, and enhance accountability in case it was backed by sufficient market capacity and network infrastructure [10]. However, the later research also indicates that the quality of implementation is significant, and e-voucher reforms cannot necessarily bring about production or diversification gains in the short-run [12], [13].

The research question of the article is to determine how digital agricultural management systems at the district level were correlated with FISP performance during 2017-2024. Based on the format of the provided source manuscript, the article provides an entirely rewritten and original analysis on the basis of the provided dataset instead of reiterating unproven assertions. Its essence is to bridge the operational measures of digitization - technology coverage, adoption among small farmers, adoption among extension technology, and investment in digital technology to the quantifiable improvements in efficiency, integrity, quality of user experience, and geographical variations in FISP.

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## **II. BACKGROUND**

The historical logic of FISP is straightforward: subsidized seed and fertilizer are used to raise smallholder productivity, stabilize food production, and support rural livelihoods. However, the broader evidence on African input subsidy programmes suggests that observed benefits are often smaller than intended because of crowding out, administrative leakages, weak targeting, and heterogeneous yield responses [7]-[9]. Zambia is no exception. Earlier reviews of Zambia's subsidy regime concluded that while the programme could raise input use and production under some conditions, its performance was constrained by cost pressure and operational weaknesses [6], [7].

Digitalization was introduced into this policy space as a reform pathway rather than as an entirely separate programme. Through the eVoucher model and related digital controls, the state sought to reduce the direct logistical burden of physical input delivery, improve farmer choice, expand private sector participation, and create auditable transaction trails [5], [10]. The reform logic was attractive because it linked public subsidy administration to digital identity, banking, point-of-sale systems, and dealer networks in ways that could make the programme both more transparent and more flexible.

Even so, digital transformation in Zambian agriculture remains uneven. Nalwimba's scoping report shows that digital interventions in the agricultural sector remain fragmented and are often implemented in silos, with uneven governance and variable inclusion across different farmer groups and geographies [11]. Malambo et al. similarly note that Zambia's digital adaptation potential is shaped by wider constraints in infrastructure, connectivity, and institutional readiness [15]. These background conditions matter because they influence whether FISP digitization becomes a narrow administrative reform or a broader platform for agricultural service delivery.

## **III. RELATED WORK**

There are three strands of literature that are particularly applicable in this study. The former deals with digital farming in general. Allied research defines digitalization as the path to enhanced data utilisation, extension assistance, and integration of the service, and highlights the importance of governance, interoperability, and inclusion [1], [16]. According to Fabregas, Kremer and Schilbach, the most plausible input of digital development in agriculture is not technology, but the embeddedness of information and advice in the institutions and decision-making processes [2].

The second one is mobile and market effects. As Aker and Ksoll demonstrate, mobile-based agricultural intervention may help to achieve better outcomes in particular circumstances, whereas Muto and Yamano discover that the growth of mobile phones can enhance market attendance by reducing search and transaction costs [3], [4]. These results do not demonstrate that any particular FISP digitization plan will be successful, but they define a convincing mechanism according to which the digital systems can enhance input access, communication, and coordination.

The third one is Zambia-specific input support reform evidence. According to Sitko et al., an electronic voucher system was capable of eliminating significant flaws in FISP, such as late delivery, high cost at the treasury, and poor targeting, in a statement made prior to large-scale rollout [10]. Subsidiary

evidence has been more circumspect later. Mason et al. discovered that the e-FISP pilot failed to deliver better short-run results than traditional FISP, and Ndhlovu and Muchapondwa also discovered that the voucher delivery system did not automatically bring about better crop diversification due to market, behavioural, and supply-side constraints facing farmers [12], [13]. Kuntashula and Mwelwa-Zgambo supplement that the context-specific effects of FISP on the diversification of agricultural production and agricultural diets are mixed and mediated [14].

The missing link that this article fills is hence evident. A good portion of the prevailing literature assesses household-level agronomic or welfare results in the pilot or initial phases of reform. The medium-term administrative performance of the programme itself at the district level has been given less attention. This paper fills that gap with a review of the hypothesis on whether the intensity of digitization is linked to improved operational performance, integrity, cost control, and beneficiary experience within the 2017-2024 period.

## **IV. PROPOSED WORK**

The research outlines the proposal of a district-level evaluation of the role of digital agricultural management systems in determining the outcomes of FISP in the long-term. Instead of viewing digitalization as having occurred in one binary reform, the analysis operationalizes digitalization in a number of measurable dimensions: technology coverage, small-farmer digital adoption, extension-agent adoption, digital investment and the infrastructure score around it.

Three analytical questions guide the study. First, did the spread of the digital systems go along with enhancing the efficiency of delivery, accuracy of targeting, and programme integrity? Second, did the benefits get spread fairly in the regions of Zambia? Third, are systematic statistically better results found to be observed in districts with stronger digital penetration than weaker digital penetration? In such a way of structuring the analysis, the article addresses not only the general population of the public administration but also the agricultural policy design.

The empirical relevance of the work is its policy orientation. In the event that the digitalization at the district level is closely linked with improved targeting, reduced leakage, and reduced unit cost, then digital management systems should be considered as central public-sector agricultural support infrastructure and not on the fringes as ICT projects. In case, though, performance gains are not continued to agronomic, but remain at the level of administrative gains, the implication is that digitization has to be more specifically correlated with the quality of extension, availability of inputs, climate data, and market access.

## **V. METHODOLOGY**

The results of empirical analysis are based on the panel dataset at the district level from 2017 to 2024 (attached). The dataset has 880 observations (district-year) for 110 districts queried over eight years. Also note that four broad dimensions are covered by the varying these broad dimensions include beneficiary administration (e.g. number of registered farmers, duplicate detected, evidence of fraud, accuracy of targeting), digitalization (tech coverage, small-farmer take up of tech, extension take-up of tech, digital investment and infrastructure score), operational performance (input efficiency; cost to administer pay-outs... which could be for reaching out beneficiaries or processing payment) and farmer-

oriented outcomes (improvement to yield; satisfaction level).

The study design is descriptive-analytical, not causal. We use four summary metrics constantly throughout our results section. The mean for some indicator X in year t is calculated as  $X_{t} = (1 / n_t) * \sum(X_{it})$ , where i indexes districts. The duplicate rate is defined as  $\text{duplicates} / (\text{total registered beneficiary}) * 100$ . Fraud incidence =  $\text{Fraud cases} / \text{Total registered beneficiaries} * 10,000$ . Administrative cost per registered farmer =  $\text{Total administrative cost} / \text{Total registered beneficiaries}$

The Results section integrates annual aggregation, region averaging, quartile comparison and correlation analysis. It also aggregates annual data to determine the direction and pace of change. Regional means are used to uncover spatial heterogeneity. Tech-coverage quartiles: weakly digitalized vs. strongly digitalized district-years, and each summary describes the correlation Pearson

strength of association between any digitization variables and programme outcomes. Because the data are observational, the analysis interprets these results as structured associations rather than definitive causal estimates.

## VI. RESULTS AND DISCUSSION

### A. National performance trajectory

Table 1 provides a summary of the national aggregate trajectory of key delivery and outcome indicators. The number of registered beneficiaries increased from 1,225,869 in 2017 to 1,746,981 in 2024 (increased by 42.5%), as shown in the table. At the same time, mean input efficiency increased from 66.71% to 87.44%, and targeting accuracy improved from 72.92% to 93.67%. Another implication of these annual averages is, therefore, both a bigger programme and one better run.

TABLE I. ANNUAL AGGREGATE PERFORMANCE INDICATORS FOR FISP, 2017-2024

Year	Total Registered	Input Efficiency	Targeting Accuracy	Yield Improvement	Cost Reduction
2,017.00	1,225,869.00	66.71	72.92	32.29	34
2,018.00	1,306,583.00	69.16	77.73	32.84	34
2,019.00	1,362,310.00	73.52	81.56	32.71	35
2,020.00	1,413,207.00	75.01	85.49	32.94	34
2,021.00	1,559,648.00	78.13	87.52	32.26	34
2,022.00	1,580,789.00	82.33	90.02	32.96	35
2,023.00	1,663,468.00	84.05	92.49	32.60	35
2,024.00	1,746,981.00	87.44	93.67	32.97	35

Table 1 is supplemented by Figure 1, which reveals the improvement of technology coverage by 20.00-86.28% between the years 2017 and 2024, at approximately the same period when efficiency and targeting were also enhanced. This trend is

significant as it shows that digital transformation was not a surface layer on top of the programme. With increased technology coverage, the programme would seem to have gone more administrative and difficult to game

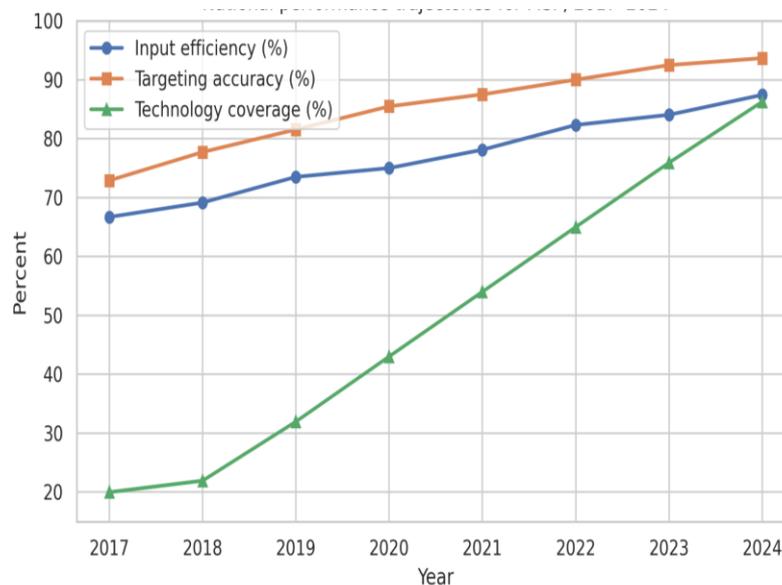


Fig. 1. National performance trajectories for FISP, 2017-2024

There should be a more conservative interpretation, as well. Table 1 indicates that the mean yield improvement remained in a close range of 32.26 to 32.97 but did not alter too much (34.20 to 35.12) cost reduction. That is, administrative and not agronomic gains were most apparent. Such a difference is appropriate to the broader literature, which demonstrates that digital reforms tend to build a stronger information, targeting, and logistics first before they produce farm-level output response, particularly in all cases where rainfall, cropping decisions, and markets continue to limit farmer adjustment [2], [12]-[14].

**B. Integrity and beneficiary management**

Table 2 focuses on two indicators that directly address programme integrity, that is, duplicate registration and fraud. The number of duplicate detections went down to 9 205 in 2024, compared to 45,062 in 2017, whereas the duplicate rate decreased to 0.53% as, compared to 3.68%.

TABLE II. INTEGRITY-RELATED INDICATORS SHOWING DUPLICATE REGISTRATION AND FRAUD INCIDENCE OVER TIME

Year	Duplicates Detected	Fraud Cases	Duplicate Rate %	Fraud per 10k
2,017.00	45,062.00	2,086.00	3.68	17.02
2,018.00	31,427.00	1,623.00	2.41	12.42
2,019.00	24,120.00	1,162.00	1.77	8.53
2,020.00	18,161.00	938.00	1.29	6.64
2,021.00	13,483.00	705.00	0.86	4.52
2,022.00	11,088.00	496.00	0.70	3.14
2,023.00	9,806.00	391.00	0.59	2.35
2,024.00	9,205.00	328.00	0.53	1.88

The number of fraud cases dropped to 328 (as compared to 2,086), which is equivalent to 1.88 cases per 10,000 registered beneficiaries. The decreases are too significant to be neglected and may indicate that the digital verification and transaction recording contributed to the administrative control to a significant extent.

The most abrupt fall was in the period 2017-2021, then the indicators showed a further decrease, but at a lower rate. This implies a speedy initial profitability of the implementation of the digital controls, and a consolidation period of time where the residual leakage was more difficult to remove.

Figure 2 highlights the timing of improvement in particular.

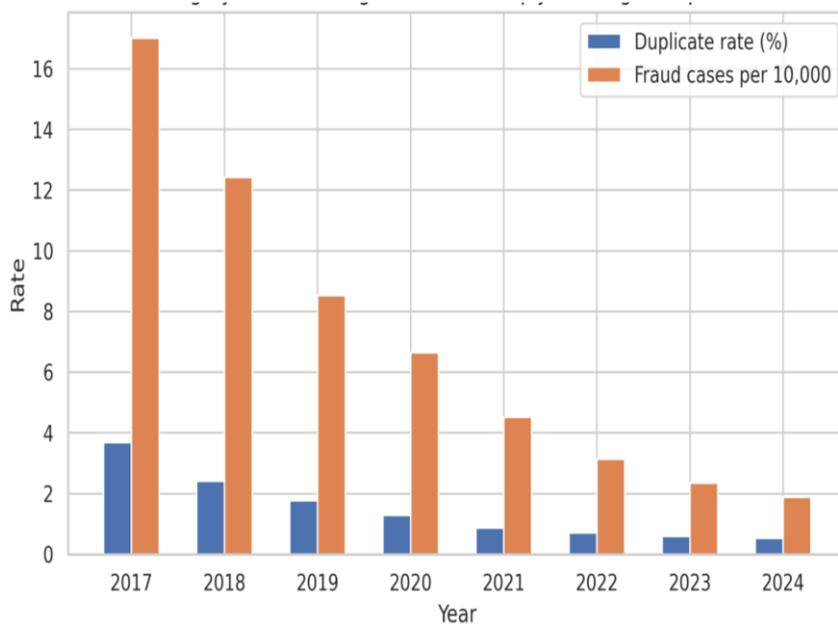


Fig. 2. Integrity-related leakages declined sharply after digital expansion.

These results are in line with the rationale of reform expressed in the policy debate and the subsidy governance evidence, in general, in Zambia. The traditional input programmes are prone to duplication of beneficiaries, leakage and poor accountability since they are overly dependent on fragmented records and manual controls [6]-[10]. In that regard, the integrity gains in Table 2 and Figure 2 are one of the best empirical pieces of evidence to keep on treating digital management systems as central public-

administration infrastructure in FISP.

C. Digital adoption and service quality

Table 3 reveals that the expansion of digital in FISP was met by exceptionally wide-ranging adoptions by the farmers and front-line implementers. The coverage of technology had more than fourfolds (20.00percent to 86.28 percent). Digital adoption, training intensity, and beneficiary experience, 2017-2024.

TABLE III. DIGITAL ADOPTION, TRAINING INTENSITY, AND BENEFICIARY EXPERIENCE, 2017-2024

Year	Technology Coverage	Small Farmer Adoption	Extension Adoption	Training Hours	Beneficiary Satisfaction
2,017.00	20.00	35.61	52.40	8.60	4.50
2,018.00	21.95	41.89	54.78	8.49	4.56
2,019.00	31.98	49.37	63.74	8.21	4.58
2,020.00	43.04	57.58	75.38	8.06	4.61
2,021.00	54.03	65.32	85.59	7.96	4.68
2,022.00	65.01	71.68	92.22	8.49	4.72
2,023.00	75.92	79.94	98.54	8.66	4.75
2,024.00	86.28	88.38	99.88	8.13	4.77

The rate of small farmers' adoption increased by 35.61 percent in 2017 to 88.38 percent in 2024, whereas 52.40 percent in 2017 to 99.88 percent in 2024 represented the extension-agent adoption. In 2017, the level of beneficiary satisfaction was already rather high (4.50 out of 5) and increased to 4.77 in 2024.

shapes of the three curves. The adoption increased significantly, particularly since 2019, though the satisfaction changed more slowly. It means that after systems were available and usable, initial acceptance ceased to be the primary challenge, but the expansion of regular use to cover districts.

Figure 3 is especially educative given that it shows the various

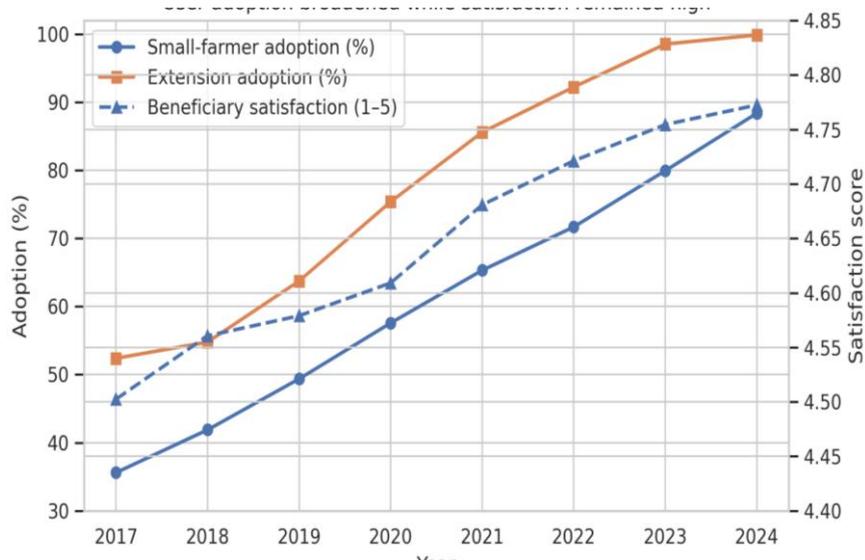


Fig. 3. User adoption broadened while satisfaction remained high.

The number of training hours did not change much and was mostly around the eight-hour mark/per annum. This is a noteworthy result. It indicates that there was no proportional growth in formal training with diffusion to the growth in adoption. Alternatively, network effects, learning by doing and institutional familiarity might have reduced the marginal burden of training in the long run. That

interpretation is supported by the literature on the topic of digital advisory systems, which highlights that platform availability and trusted intermediaries are sometimes the key factor as opposed to standalone training interventions [2]-[4], [11], [15].

D. Investment and cost dynamics

Table 4 summarises the financial picture of digitization in a better way than aggregate efficiency indicators in isolation. There was a rise in total digital investment, from 551,375 to 4,387,502 in 2017

and 2024, with an increase in digital investment per registered farmer, from 0.45 to 2.51. At the same time, administrative cost was reduced from 5,525,023 to 4,018,194, and the administrative cost per registered farmer was reduced to 2.30.

TABLE IV. INVESTMENT, ADMINISTRATIVE COST, AND UNIT-COST INDICATORS ASSOCIATED WITH THE DIGITAL TRANSITION

Year	Administrative Cost	Digital Investment	Admin Cost per Registered	Digital Investment per Registered	Cost Effectiveness
2,017.00	5,525,023	551,375.00	4.51	0.45	3.36
2,018.00	5,554,023	1,120,039.00	4.25	0.86	3.33
2,019.00	4,848,773	1,668,070.00	3.56	1.22	3.52
2,020.00	4,723,633	2,218,689.00	3.34	1.57	3.44
2,021.00	4,665,782	2,752,041.00	2.99	1.76	3.46
2,022.00	4,256,624	3,253,509.00	2.69	2.06	3.56
2,023.00	4,155,137	3,836,352.00	2.50	2.31	3.46
2,024.00	4,018,194	4,387,502.00	2.30	2.51	3.49

Figure 4 thus depicts a typical pattern of transition in digitalization of the public sector, in which spending on technology is increased at the initial stage, and the ongoing administrative cost per user decreases. The fact is not just in the simplistic allegation that technology only serves to place an extra dimension of expenditure.

Rather, the character indicates that the expenditure on digital systems restructured the utilization of resources, substituting certain manual costs of transactions with more extensively scalable digital operations.

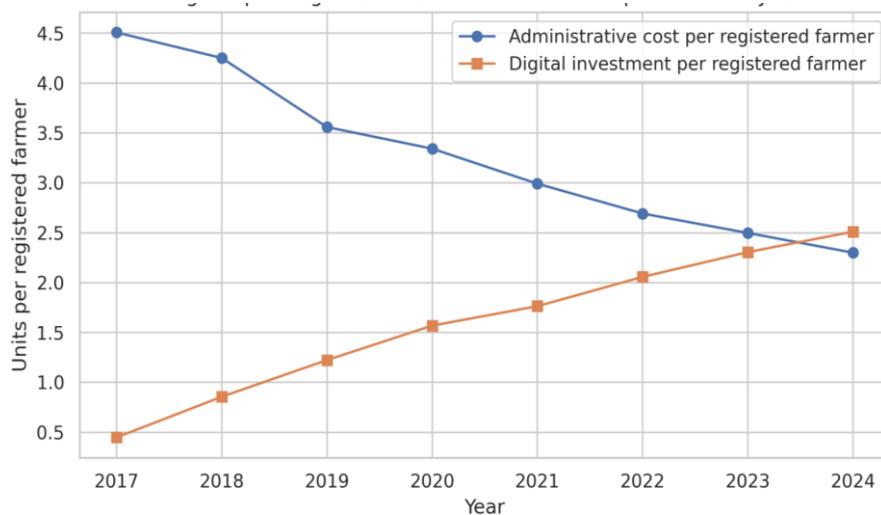


Fig. 4. Digital spending rose while the administrative cost per beneficiary fell.

The behaviour of the cost-effectiveness index is less extreme. Table 4 demonstrates that the average value had slightly increased between 3.36 in 2017 and 3.49 in 2024, with a maximum of 3.56 in 2022. This flat pattern implies that there was a consumption of some savings in programme expansion, improvement of service-quality, and increasing digital reach. The appropriate policy outcome is not merely the saving of money via digitalization, but the reduction of the unit administrative cost and the increased number of farmers the programme supports with tighter control.

E. Regional heterogeneity in programme performance

Table 5 indicates that there was no uniform performance of the programmes across regions. The high mean input efficiency of 82.85 was registered in Lusaka, whereas Southern gave the highest mean yield improvement of 37.81 and the best cost-effectiveness score at 3.87. Western recorded the lowest score on input efficiency (71.59%), technology coverage (45.61%), beneficiary satisfaction (4.55) and cost-effectiveness (2.83).

TABLE V. REGIONAL COMPARISON OF AVERAGE DELIVERY, FARMER-OUTCOME, AND DIGITAL-COVERAGE INDICATORS

Region	Input Efficiency	Yield Improvement	Cost Reduction	Technology Coverage	Beneficiary Satisfaction	Cost Effectiveness
Lusaka	82.85	32.93	41	55.72	4.74	3.49
Central	79.39	34.38	38	53.07	4.67	3.69
Southern	79.16	37.81	38	52.44	4.68	3.87
Copperbelt	77.91	31.78	35	51.75	4.68	3.36
Eastern	77.90	36.03	35	49.15	4.65	3.82
Northern	77.22	33.24	33	48.30	4.65	3.53
Luapula	74.85	29.32	31	47.23	4.62	3.14
Northwestern	74.15	28.69	31	46.62	4.61	3.14
Western	71.59	27.66	29	45.61	4.55	2.83

The dichotomy of quality of delivery and agronomic performance that Figure 5 splits is helpful, as it is easy to confuse these two concepts when discussing policy. Lusaka is a leader in terms of delivery efficiency, whereas Southern and Eastern are leaders in terms of mean yield improvement. This implies that digital

management systems enhance the general performance of the administration, where production results are also partly dependent on agro-ecology, schemes of cropping and other available support services.

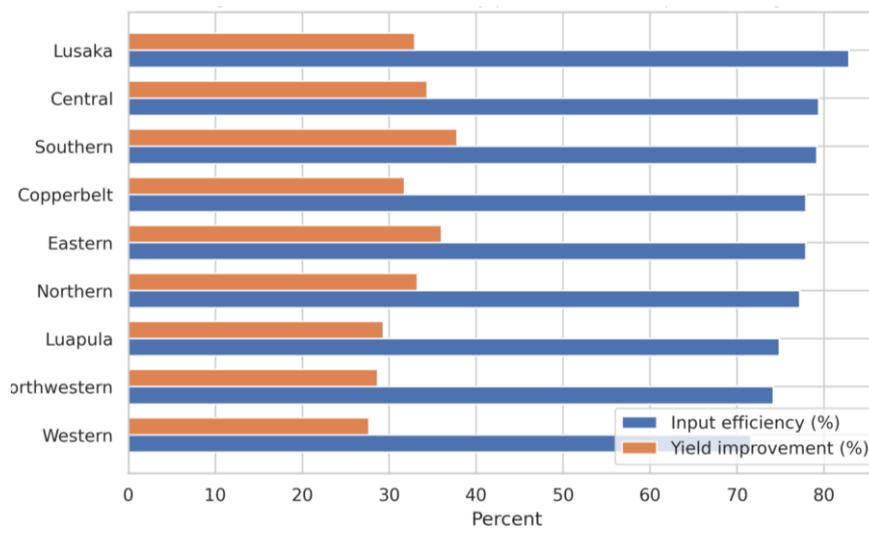


Fig. 5. Regional differences in delivery performance and production gains

The contextualized pattern in the region also underlines the fact that digitalization is not an anti-contextual movement but rather a contextual one. The more networks, market density, or implementation capacity, the faster the transformation of digital tools into better performance can be done in regions. Laggards might need specific assistance in connection with dealer development, extension logistics and local problem solving in case they are to enjoy the same benefits as FISP digitization [11], [15].

F. Digitization intensity and programme outcomes

Table 6 provides the results of the four quartiles of technology

coverage and makes the most comprehensible overview of the correlation between digital penetration and programme performance. The highest-tech-best-covered quartile of district-years has better results on all measures of governance reported in the table. The highest quartile had an input efficiency of 86.16%, and the lowest quartile had 67.85% input efficiency. The accuracy of targeting was 92.53 and 75.42. The mean cases of fraud were 3.38 and 16.85, and the duplicate cases were 87.99 and 346.85, respectively. The highest quartile also showed a significant difference in administrative cost (37,443.26 v. 50,266.43) and also beneficiary satisfaction (4.77 v. 4.53).

TABLE VI. COMPARISON OF DISTRICT-YEAR OUTCOMES BY TECHNOLOGY-COVERAGE QUARTILE

Technology Quartile	Input Efficiency	Targeting Accuracy	Fraud Cases	Duplicates Detected	Administrative Cost	Beneficiary Satisfaction	Cost Effectiveness
Q1 Lowest	67.85	75.42	16.85	346.85	50,266	4.53	3.34
Q2	74.48	83.63	9.35	189.92	43,655	4.60	3.48
Q3	79.70	89.13	5.54	112.85	40,197	4.70	3.46
Q4 Highest	86.16	92.53	3.38	87.99	37,443	4.77	3.53

Figure 6 is a visualization of the same relationship at the level of all 880 district-years. This positive slope is not induced merely by the fact that annual averages are positive, but it can be seen in the case when the complete distribution of the district observations is

plotted. The pair-wise tests affirm that the difference in the Q1-Q4 of input efficiency, targeting accuracy, fraud, duplicates, administrative cost, and beneficiary satisfaction is statistically significant at  $p < 0.001$ .

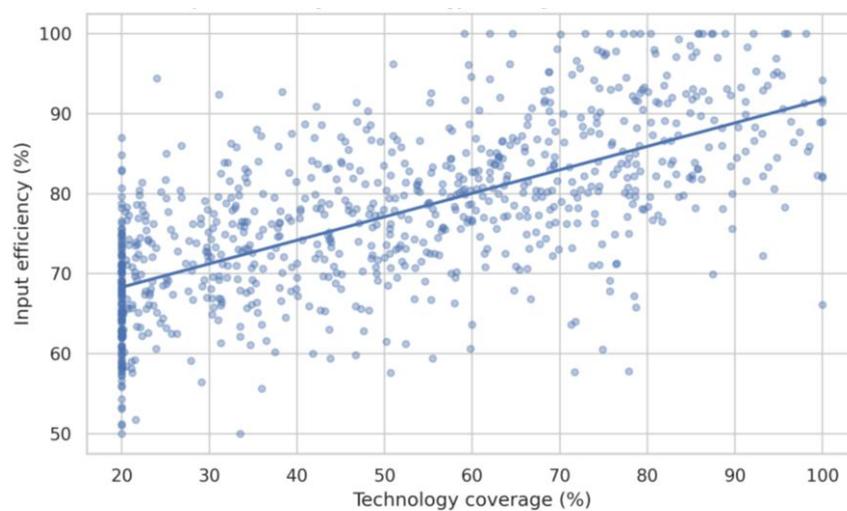


Fig. 6. Districts with higher technology coverage tended to be more efficient.

This reading is supported by correlation analysis. Technology coverage is significantly associated with small-farmer adoption ( $r = 0.94$ ), extension adoption ( $r = 0.92$ ), targeting accuracy ( $r = 0.79$ ), and input efficiency ( $r = 0.67$ ) and negatively related to administrative cost ( $r = -0.42$ ). We find input efficiency in turn to have a positive correlation with beneficiary satisfaction ( $r = 0.61$ ). Collectively, the quartile, scatter and correlation pieces of evidence indicate that the strongest contribution of digital agricultural management systems as part of FISP has been enhanced governance of the programme.

## VII. CONCLUSION AND FUTURE WORK

The article analyzed the district-level evidence of the performance of digital agricultural management systems in the period of 2017-2024 in Zambia in the FISP. The key observation is that digitization was highly correlated with enhanced efficiency of delivery, enhanced targeting, reduced leakage, increased adoption by users and reduced unit administrative expenses. There was also a significant increase in technology coverage, small-farmer adoption, and extension adoption, and a decrease in duplicates, fraud, and administrative cost per registered farmer.

It is also indicated in the results that not all the performance dimensions equally benefited from digitization. The improvements

of delivery and governance indicators increased a lot faster compared to agronomic indicators, such as the generation of an increase in yield. This indicates that the digital systems reinforced the administrative support of FISP more explicitly than they did production outcomes directly. The same finding aligns with the literature, which insists that digital reforms are most effective when they are combined with high extension, operating input and output markets, and sufficient infrastructure [2], [11], [15].

Based on these findings, there are policy implications. To start with, the digital farmer registries and transaction systems must be considered as the central public infrastructure of agricultural support programmes. Second, poor-performing areas need to be specifically invested in connectivity, implementation support, and agro-dealer ecosystems in order to be able to generalize the gains projected in digitally more powerful districts. Third, the FISP reforms of the future need to incorporate the digital management data more directly with the weather intelligence, agronomic advisory systems and market information in order to enable more effective administration to have a greater impact on more effective farm outcomes [1], [5], [16].

The study is premised on an observational panel, and thus cannot assert that the measured changes were in turn caused only by digitalization. Future studies must integrate programme

administrative data and household survey evidence, geospatial climate data, and causal identification methods to approximate what the digital elements are producing the most returns under varying local circumstances. Despite this caveat, the evidence provided in this section goes a long way to demonstrate that the advent of digital agricultural management systems has emerged as a significant contributor to improved FISP administration in Zambia.

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