

Government Procurement Spend Analytics for policy making



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Public Procurement spend is

15-20% of the GDP ⁽¹⁾

For India : We are talking about

USD 331 Bn

India's GDP is around USD 2,073.54 Bn

The stake is high



ANALYSING DATA FROM e-PROCUREMENT SYSTEM

e-Procurement is now widely used to process Government tenders

Many States used a centralized e-Government Procurement (e-GP) platform to process tenders of multiple government agencies in the State

Information about key procurement related parameters now is available in electronic format viz.:

- Number of tenders processed
- Value of tenders
- Number of bids received for each of the tenders published
- Tender description
- Time taken from tender publication – financial bid opening

Need for Converting Data to Information

Tender data in e-GP system can be processed as such to find the following information at the State level (i.e. aggregate):

- Average number of bidders per tender
- Value of procurement spend
- Time taken from tender publication – financial bid opening

Insights at the aggregated level is good, but does not provide much actionable data (e.g.):

- Should government modify pre-qualification criteria
- Is the time provided for bid submission inadequate

Need for Converting Data to Information

As per Item code based analysis of a State Government procurement data:

Average number of bidders per tender in 2011-12

- Elevated Storage Reservoir (Over Head Tank) = 1.56
- Check Dam Construction & Repair = 3.91
- Aggregate across all item code categories = 2.67

Zero bid tenders in 2011-12

- Forest Nursery Management = 86.27% (228 out of 260)
- Single Family Home Construction = 86.27% (88 out of 102)
- Commercial or Industry Facility Rental = 70.67% (212 out of 300)
- Check Dam Construction & Repair = 4.64% (42 out of 906)
- Aggregate across all item code categories = 22.06% (10460/47409)

What if e-Procurement Data Could be Analyzed?

Specific remedial measures can be taken if problem is known

- Dilution of pre-qualification criteria
- Improve payment terms
- Attract participation from contractors elsewhere in the country

Performance improvement targets can be set year on year

- Average number of bidders to be increased from 1.56 to 3 bidders in Overhead tank construction tenders for example
- Percentage of zero bid tenders in top 5 spend areas will be less than 5%

Data is now available in a Centralized system. It has to be analyzed

Rich insights can be obtained with categorization of tenders

SPEND ANALYSIS

- * Government Procurement Spend Analysis is the strategy that uses procurement data to identify opportunities to save money, achieve better value, identify areas to improve efficiency in public procurement processes through optimization.



BENEFITS OF SPEND ANALYSIS



It provides evidence-based insight into Government Procurement pattern and trends



It helps the Government in identifying opportunities for optimum planning/budgeting and use of the scarce financial resources



It is a key starting point in formulating public procurement policy and strategy.

ANALYSING DATA AVAILABLE IN THE e-PROCUREMENT SYSTEM



Helps Government in
“Benchmarking”
Procurement
Performance targets.

Helps in procurement
planning

SPEND ANALYSIS AND LINKAGE WITH POLICY MAKING



Predicts expenditure and saving opportunities



This helps in forecasting and setting the profitability targets and budget allocation



Inter-State or inter-departmental comparison of category costs against allocated budget



It helps finance personnel to visualize opportunities of greater savings through reduction of external expenses

SPEND ANALYSIS AND LINKAGE WITH POLICY MAKING



Spend analysis gives insights on government spend patterns at item code level



Provides evidence-based data for policy formulation or budget preparation

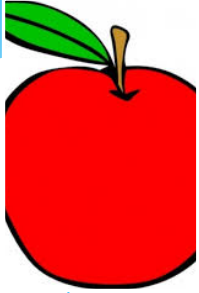


Helps in analyzing Government performance

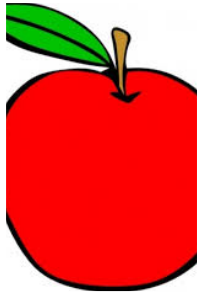


Integration of online government systems, i.e. treasury, procurement and contract management, ensures seamless flow of information

About the Study : Analysing e-GP Data

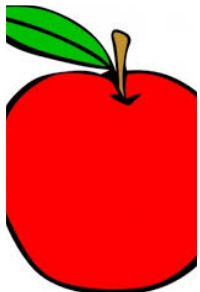


Procurement spend analysis done for the States of : Karnataka; Odisha; Jharkhand and Assam(only Public Works Department)



Data analysed for the years :

Karnataka - 5 years; Odisha – 3 years; Jharkhand – 3 years and Assam PWD – 3 years



Total Number of tenders analysed : 170,195

About the Study : Analysing e-GP Data



Version 14.0801 of the UNSPSC code-set used to categorize tenders



UNSPSC is a hierarchical code-set: Segment (56), Family (420), Class (3819) and Commodity (49022)



Assignment of item code done at the tender level

About the Study : Analysing e-GP Data

Performance Indicators

Competitiveness

- Average number of bidders per tender
- Percentage of zero bid tenders
- Increase in quality of competition
- Difference between estimated and awarded price

Effectiveness and Value for Money

- Time taken to complete procurement
- Savings in advertisement costs
- Savings in photocopy / printing

About the Study : Analysing e-GP Data

Performance Indicators

Governance (Transparency and Accountability)

- Publication of Award of Contract

Trust of Private Sector / Bidder's Community

- A survey of the suppliers was conducted

System Performance

About the Study : Analysing e-GP Data

Envisaged Outcome



Government does a root cause analysis for poor performance and takes remedial action

Such assessment is done year on year to evaluate effectiveness of the remedial actions taken

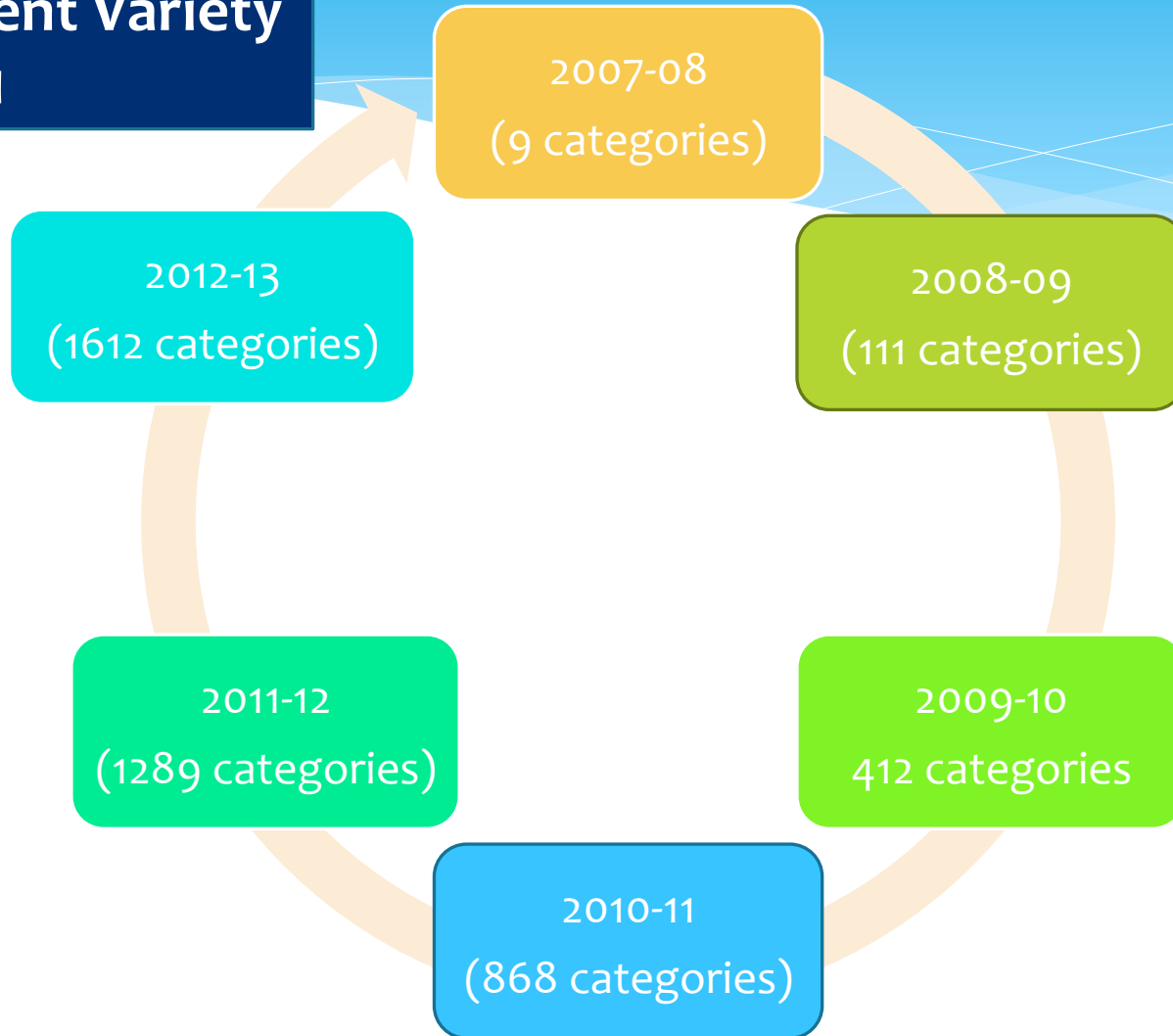
Government Institutionalizes a full-fledged, data driven program for continuous improvement in procurement performance



**KEY
FINDINGS**

Key Findings from the Study

Procurement Variety For State-1



Key Findings from the Study

Key Parameters for State-1

S.no.	Description	07-08	08-09	09-10	10-11	11-12	12-13
1	No. of tenders	16	1264	5035	14349	47409	64711
2	No. of user departments	4	17	46	89	115	190
3	No. of “o” bid tenders	4	456	951	2762	10460	14065
4	% of “o” bid tenders	25.00%	36.08%	18.89%	19.25%	22.06%	21.74%
5	Val. Of published tenders excl. “o” bid tenders in Cr.	43	2238	10170	14705	26872	49696
6	Serial number 5 in USD MN	6	334	1517	2194	4010	7417

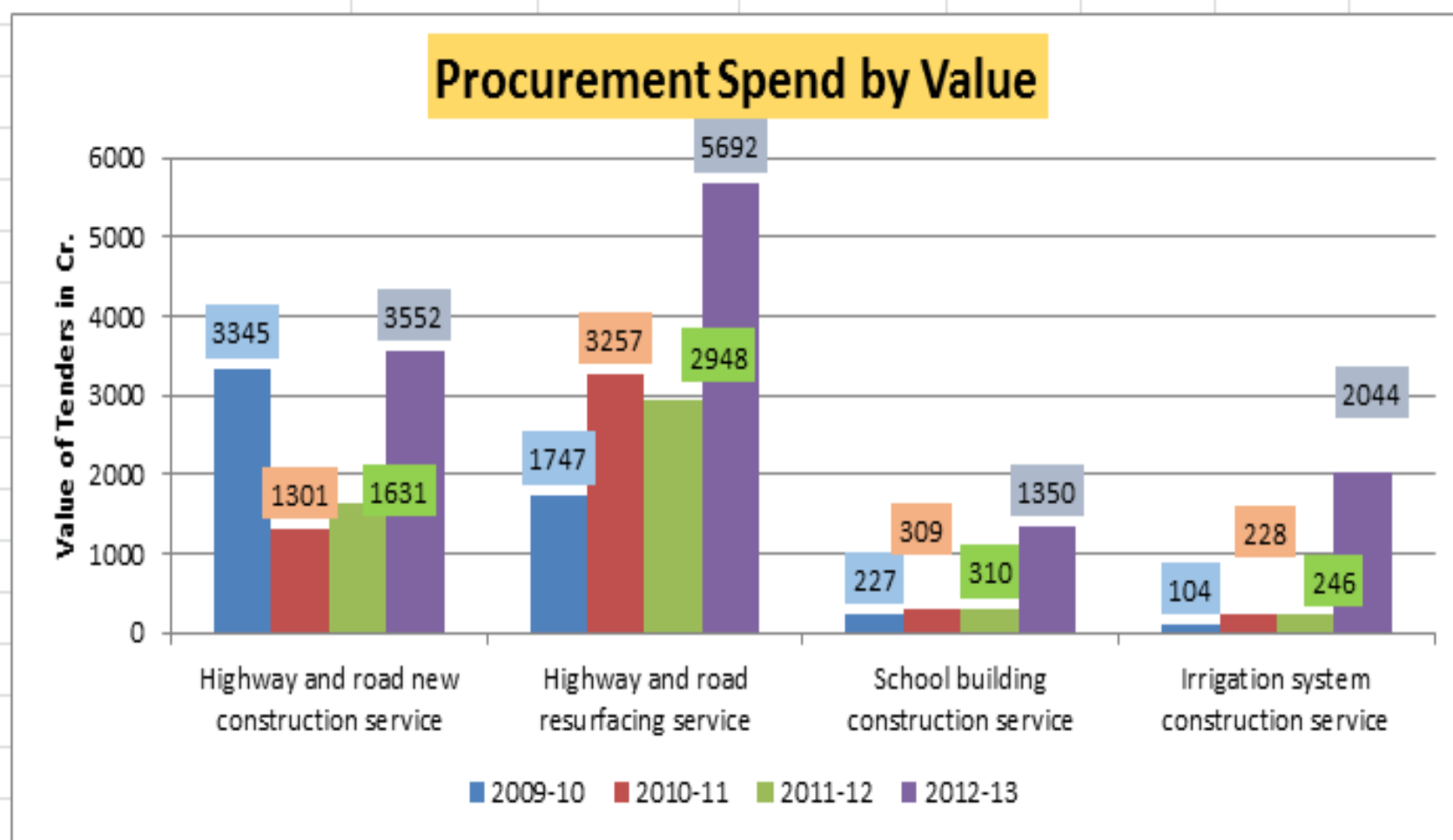
Key Findings from the Study

Key Parameters for State-1

S.no.	Description	07-08	08-09	09-10	10-11	11-12	12-13
6	Ratio of 1 cover tenders	0.00%	3.09%	42.28%	51.58%	67.60%	68.59%
7	% of tenders with 3 or more bids	37.5	14.4	57.7	46	30.14	31.09%
8	% of tenders with AoC Information	33.33%	82.05%	81.42%	83.65%	85.34%	85.45%
9	Average number of bidders	5.25	2.1	5.4	4.53	2.67	2.72
10	Time taken for procurement in days	332	156	143	140	121	120

Key Findings from the Study

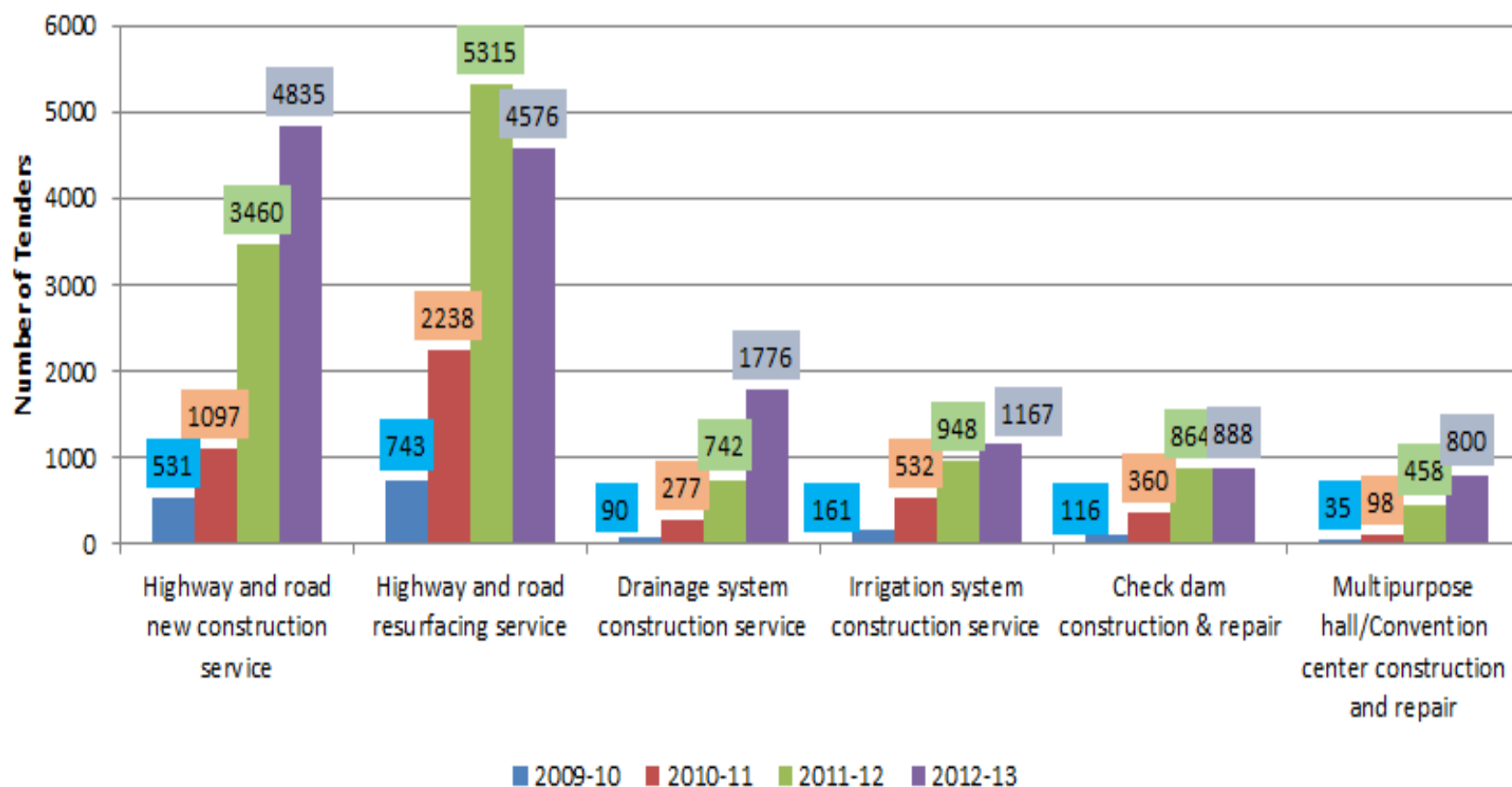
Key Parameters for State-1



Key Findings from the Study

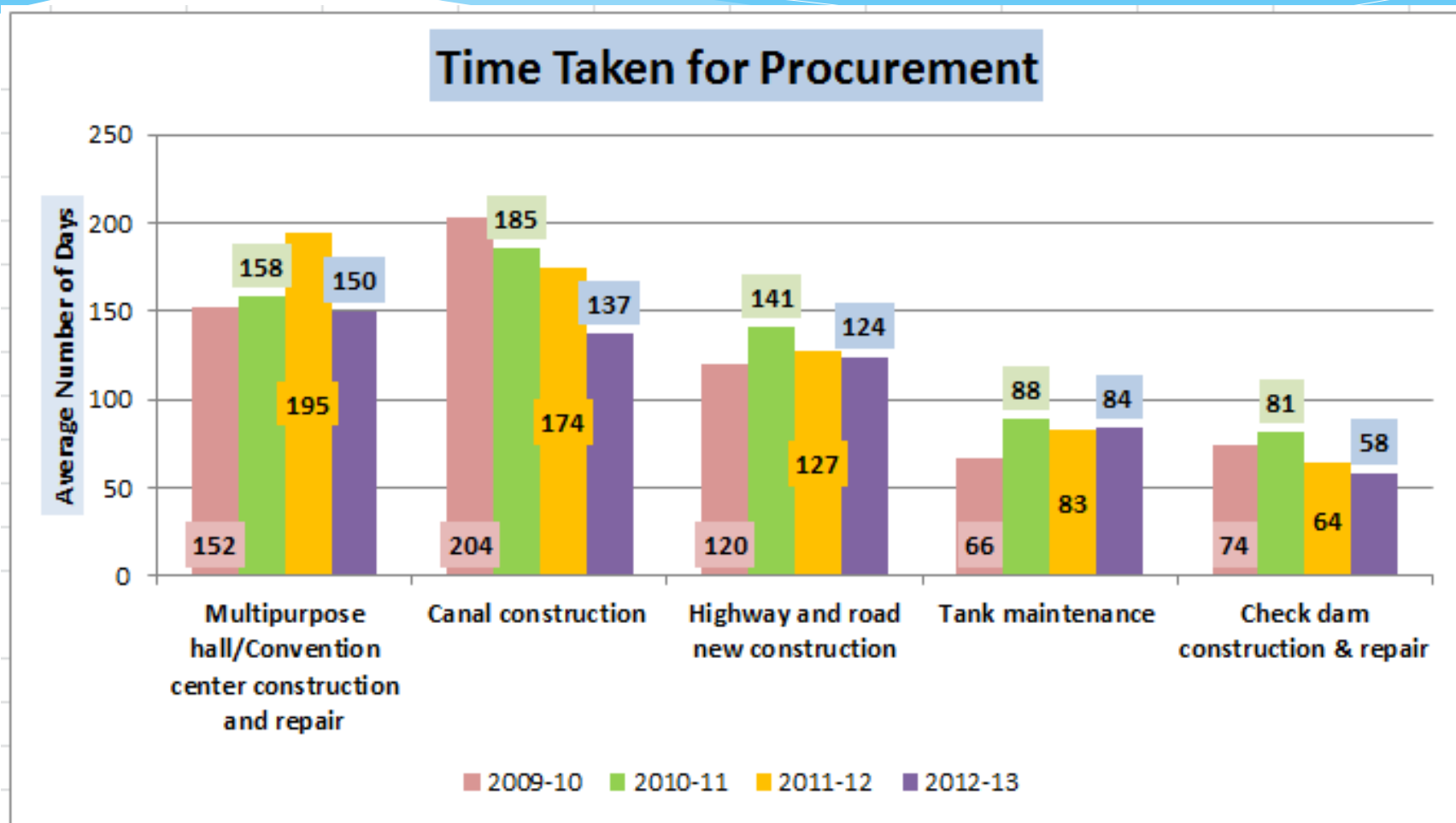
Key Parameters for State-1

Procurement Spend by Number



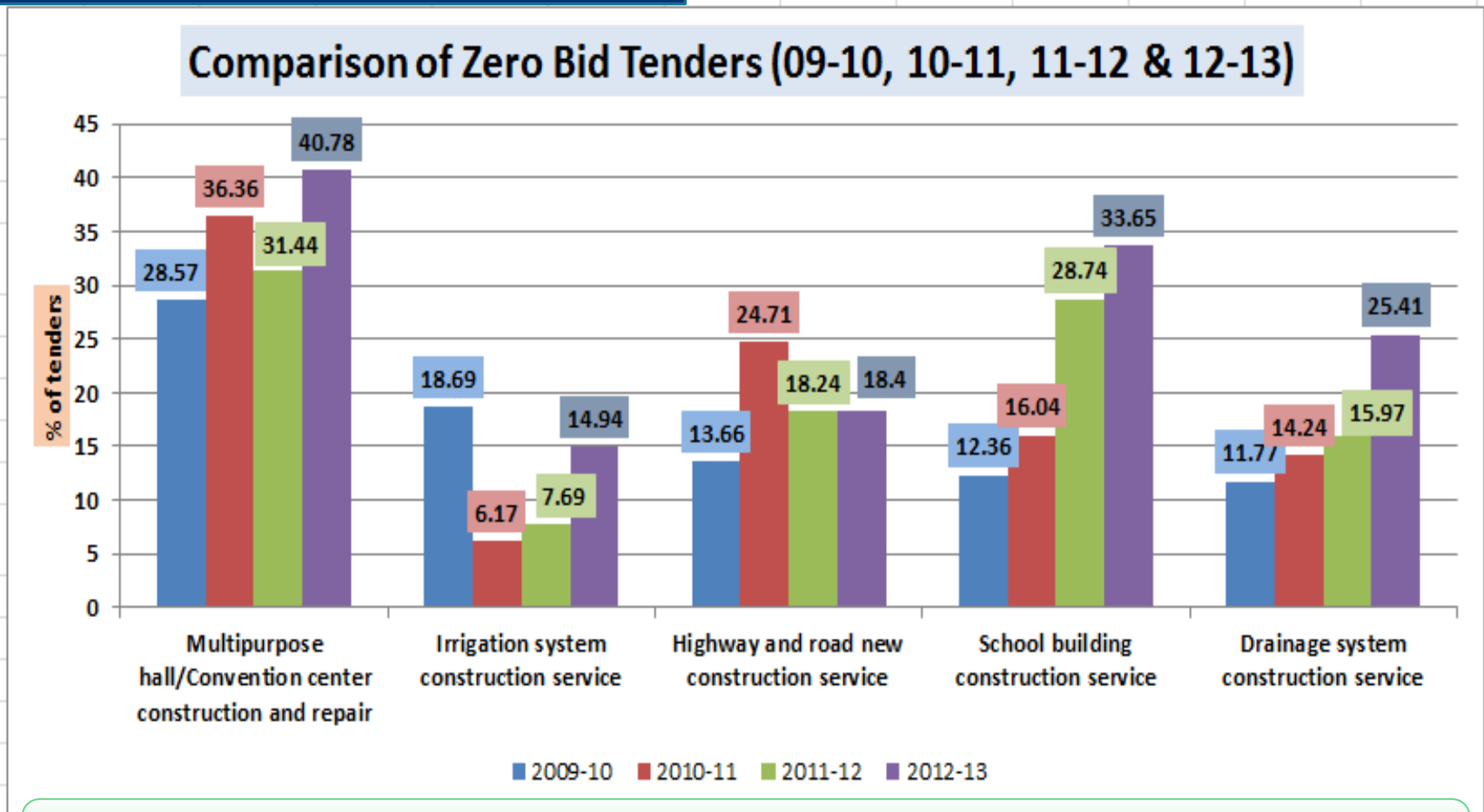
Key Findings from the Study

Key Parameters for State-1



Key Findings from the Study

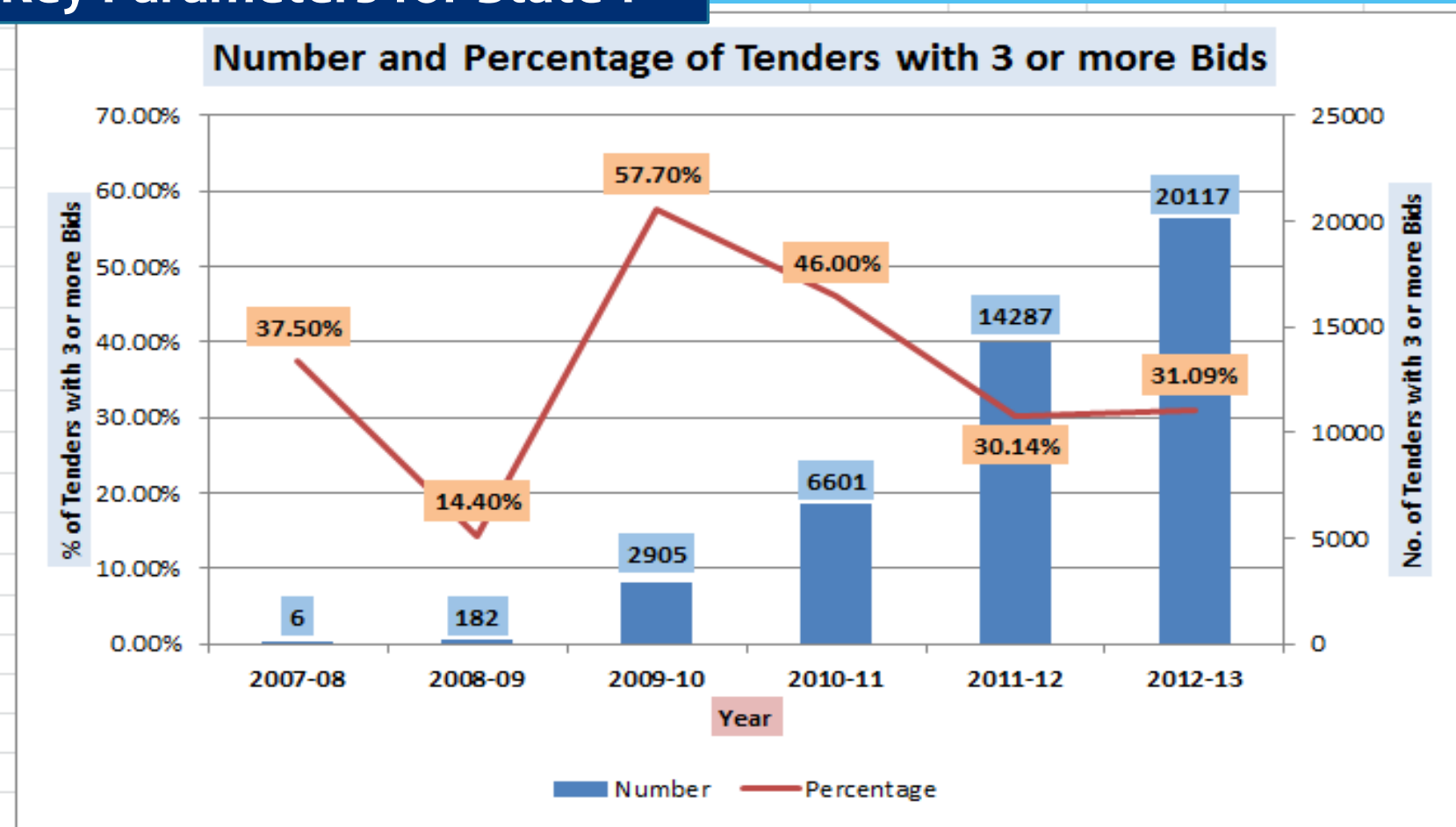
Key Parameters for State-1



More than 1/3rd of tenders in multipurpose hall construction tenders do not attract any bids. Irrigation tenders are better at around 10%

Key Findings from the Study

Key Parameters for State-1

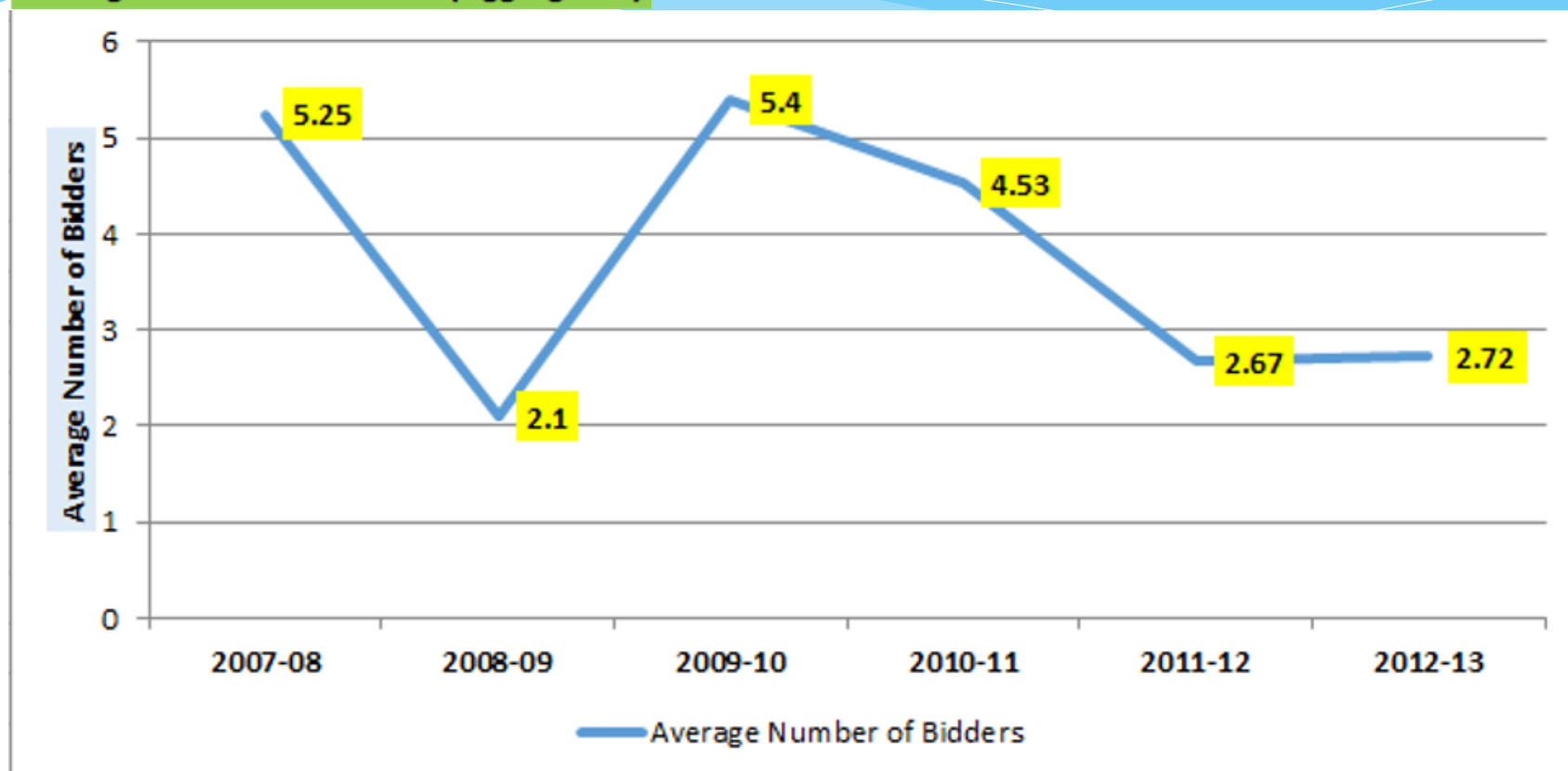


About 1/3rd of tenders receive more than 3 bids

Key Findings from the Study

Key Parameters for State-1

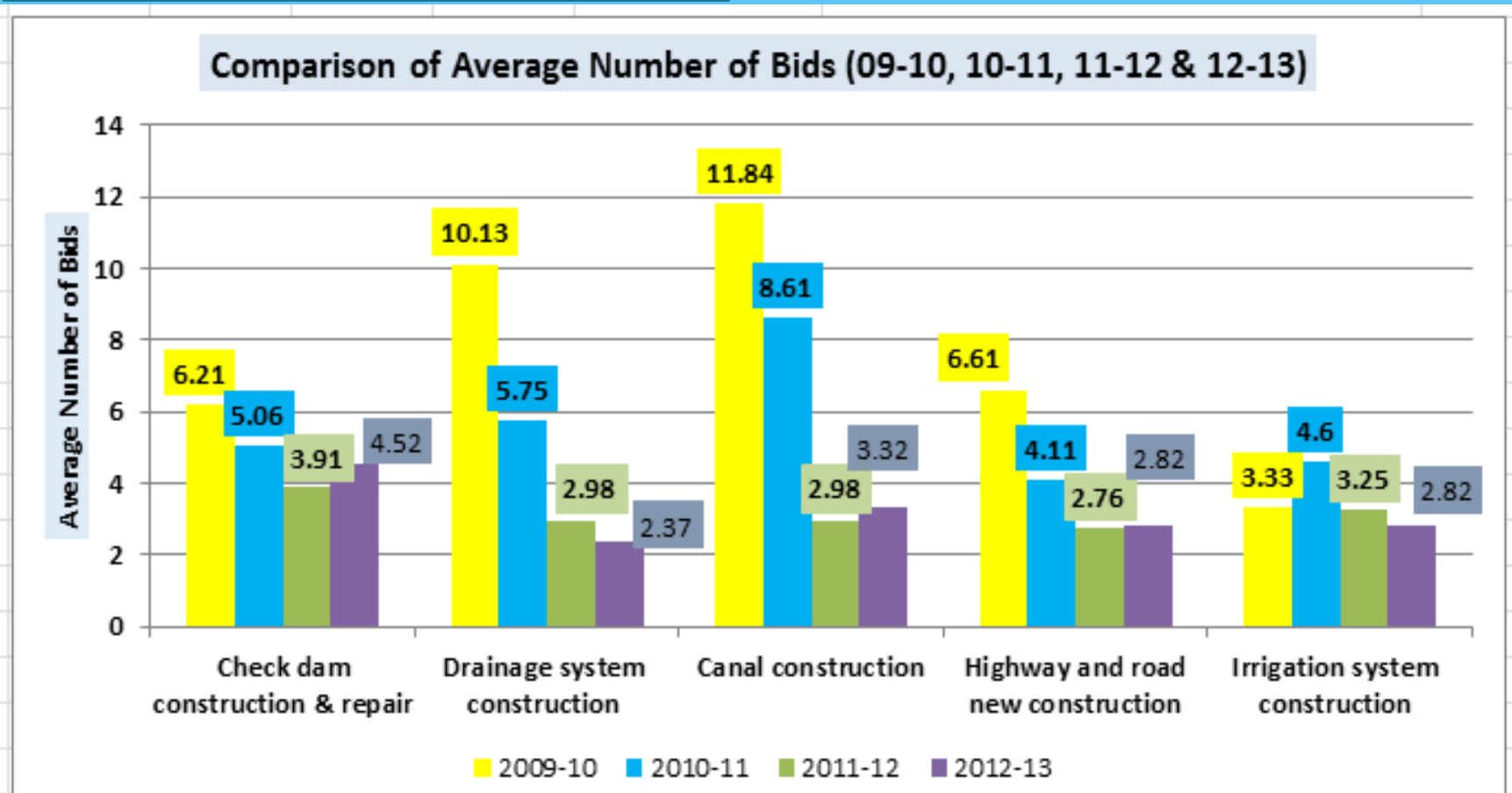
Average Number of Bidders (Aggregated)



Average number of bidders has stabilized at around 2.7 bidders per tender

Key Findings from the Study

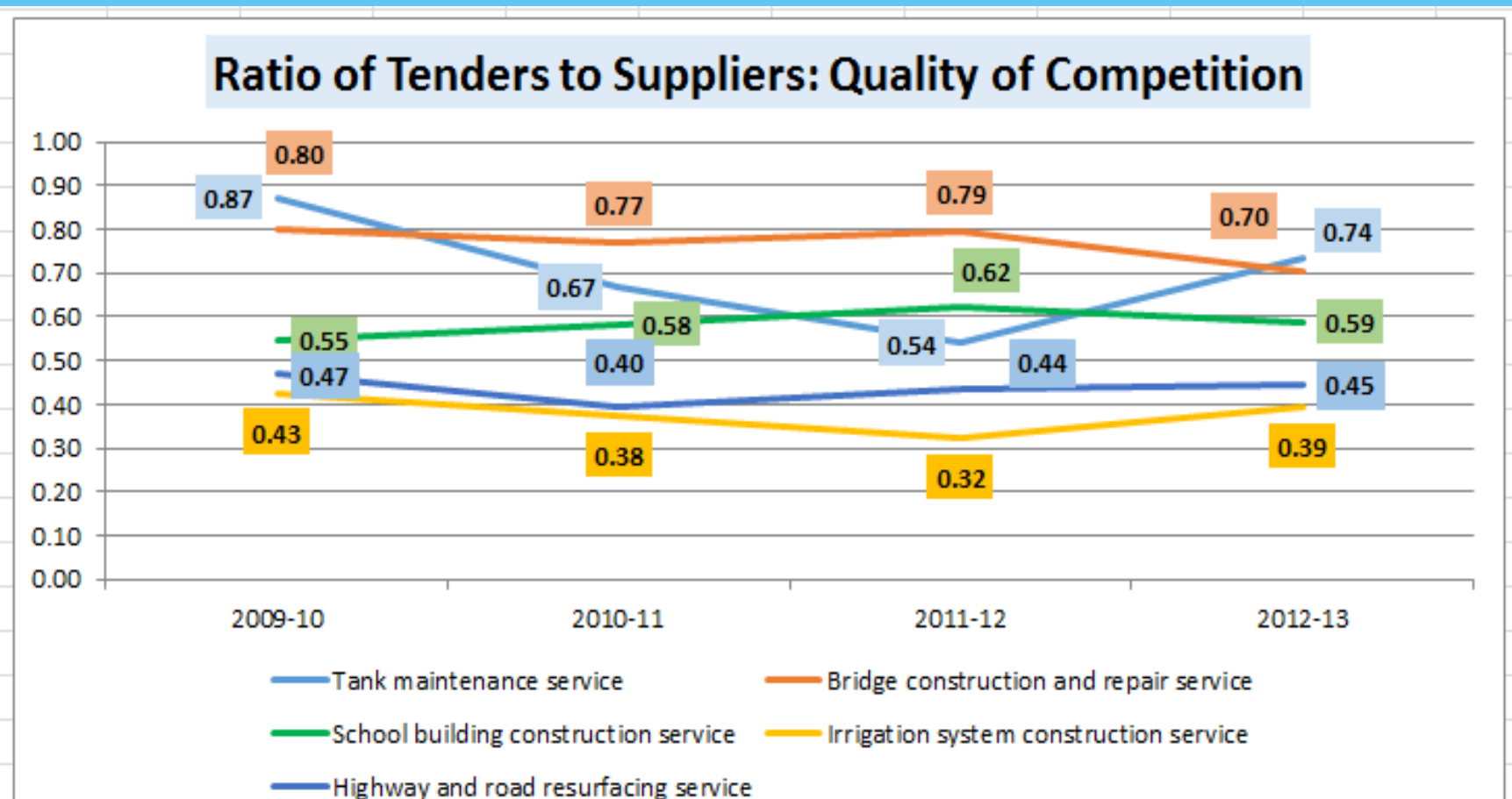
Key Parameters for State-1



Participation in drainage system construction tenders fell year on year from 10.13 bids per tender to 2.37 bids per tender

Key Findings from the Study

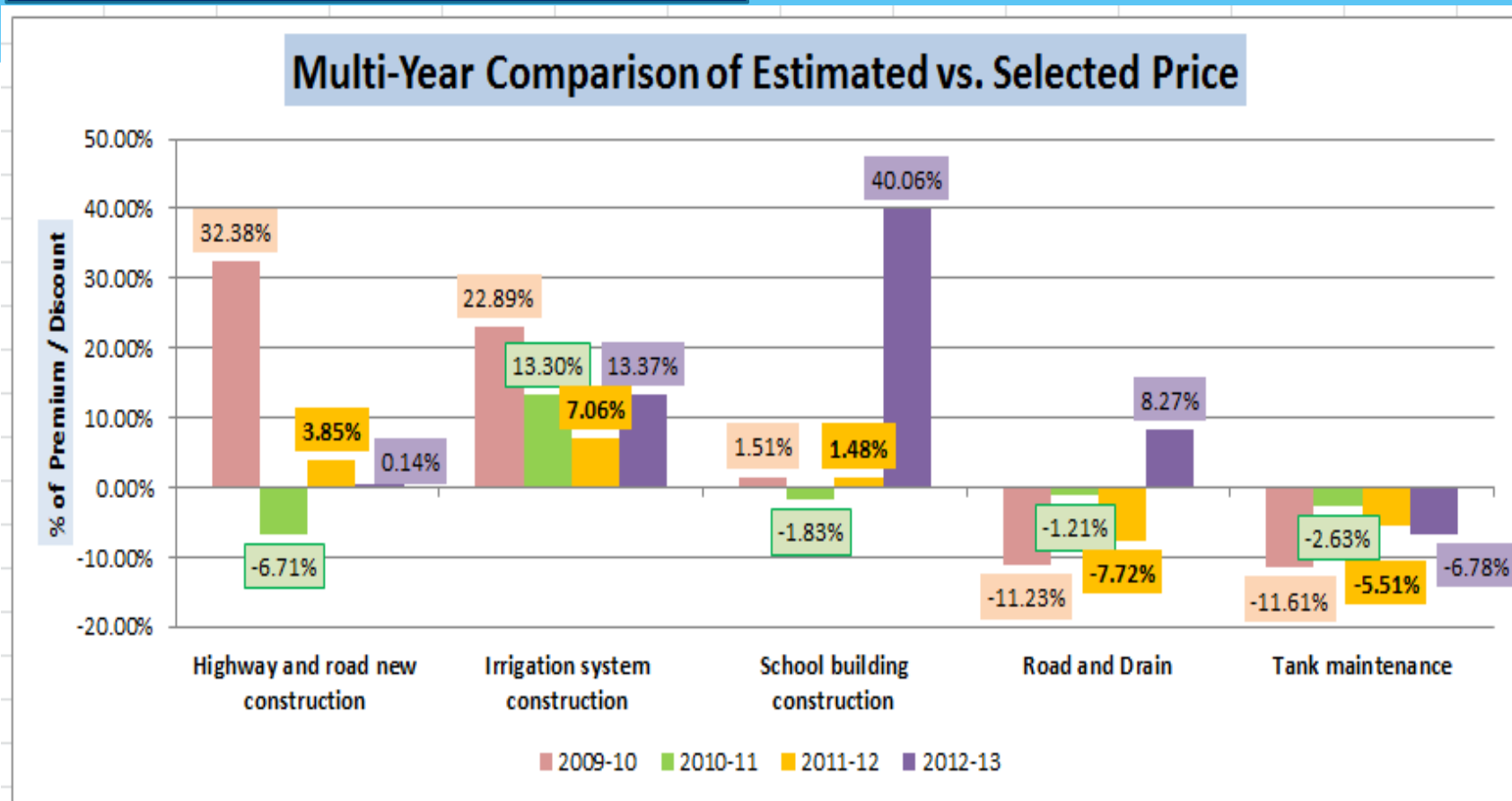
Key Parameters for State-1



Quality of competition is much better in bridge construction (~0.7) vis-à-vis irrigation system construction (~0.4)

Key Findings from the Study

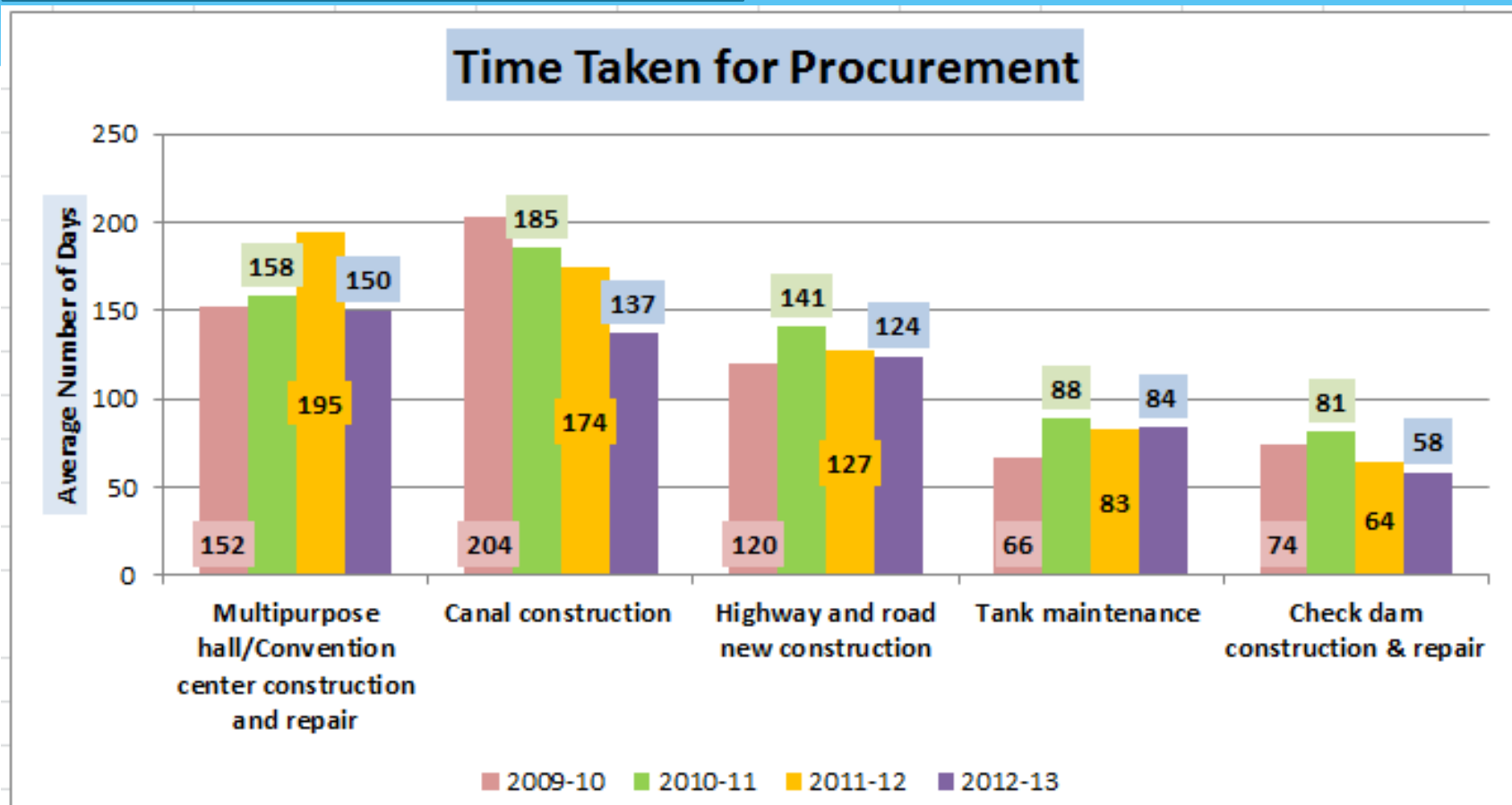
Key Parameters for State-1



Tank maintenance tenders have consistently quoted below the estimated price

Key Findings from the Study

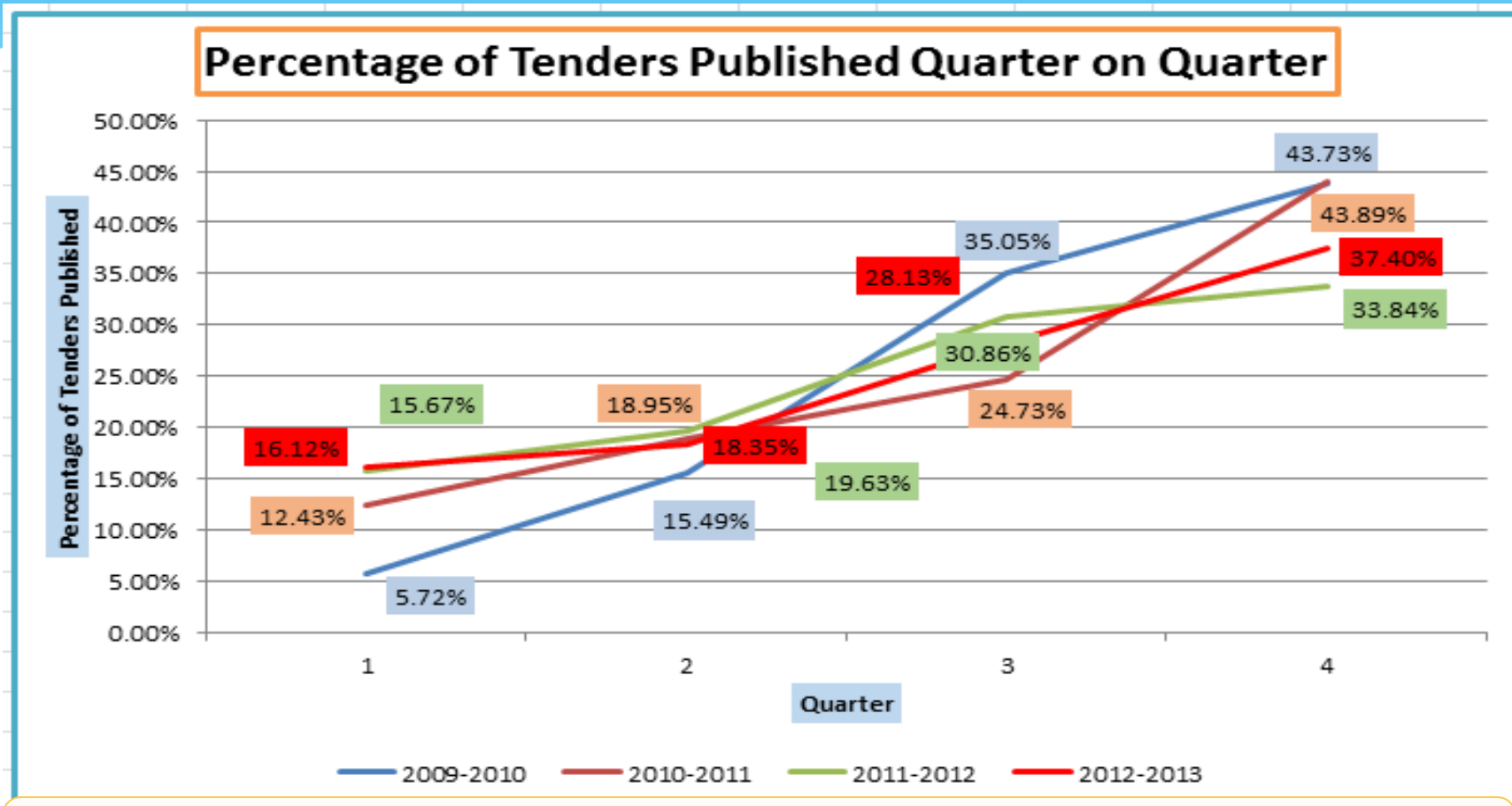
Key Parameters for State-1



Check dam construction tenders are finalized faster as compared to canal construction and multipurpose hall construction and repair tenders

Key Findings from the Study

Key Parameters for State-1

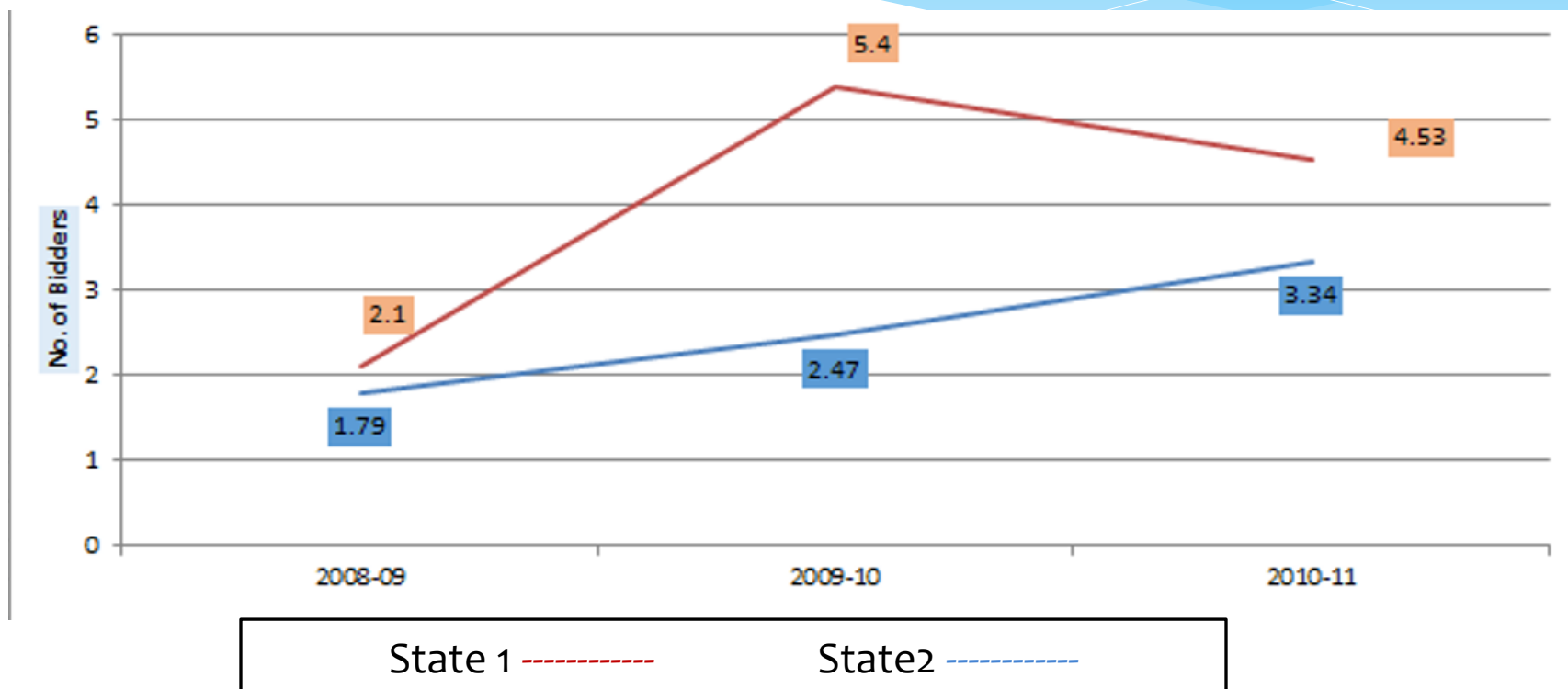


About 60% of the tenders are published in the last 2 quarters

Key Findings from the Study

Inter-State Comparison

Average no. of bidders – State 1 vs State 2



Benchmarking of a State's performance vis-à-vis other States can be done with such analysis

Key Findings from the Study

Summary of Survey Responses

S.no.	Criteria		Metric	Average Grade		
				Manual	Electronic	Difference
1	Extent of competition in tenders (57 answers)		In the scale of 1-10, 1 denotes "Very low competition" and 10 denotes "Very high competition"	3.3	8.82	5.52
2	Transparency in vendor selection (57 answers)		In the scale of 1-10, 1 denotes "Not transparent" and 10 denotes "Very transparent"	3.25	8.72	5.47
3	Time taken to evaluate bids (57 answers)		In the scale of 1-10, 1 denotes "Very long time taken" and 10 denotes "Very less time taken"	3.14	8.37	5.23
4	Ease of access to tender documents (57 answers)		In the scale of 1-10, 1 denotes "Very difficult to access tender documents" and 10 denotes "Very easy to access tender documents"	3.26	9.25	5.99
5	Ease of bid submission (57 answers)		In the scale of 1-10, 1 denotes "Very difficult" and 10 denotes "Very easy"	4.23	9.23	5
6	Ease of learning about tender opportunities		In the scale of 1-10, 1 denotes "Very difficult" and 10 denotes "Very easy"	3.75	8.89	5.14
7	Average number of visits made to govt. office for					
	A	Learning about tender opportunity	Number of visits	3.92	0.88	-3.03
	B	Purchase of tender document	Number of visits	3.13	0.37	-2.75
	C	Bid submission	Number of visits	3.17	0.58	-2.59
	D	Bid opening	Number of visits	3.02	0.58	-2.44
	E	Bid Evaluation	Number of visits	3.60	0.79	-2.81
	F	Award of Contract	Number of visits	4.92	1.23	-3.68
8	Speed of e-Procurement system		In the scale of 1-10, 1 denotes very slow and 10 denotes very fast	8.81		
9	Complexity of e-Procurement system		In the scale of 1-10, 1 denotes very complex to use and 10 denotes very easy to use	8.86		

Key Findings from the Study

System Performance

S.no.	Description	Dec 10 – Mar 11		Apr 11 – Mar 12		Apr 12 – Mar 13	
		No.	% age	No.	% age	No.	% age
1	Maximum no of tenders closing on a date & average CPU utilization between 1100 – 1600 hours on that day	197	3%	609	12%	1124	8%
2	Maximum no of tenders closing on a date & average RAM utilization between 1100 – 1600 hours on that day	197	18%	609	22%	1124	28%

Recommendations



Mandate codification of tenders & procurement data analytics

Establishment of Procurement Policy Unit

Investigate the reasons for poor procurement performance

Increase Award of Contract ratio closer to 100%

Publish annual procurement report

Conduct regular survey of supplier community for feedback

WAY FORWARD

Inter-state comparison of results

- (e.g.) Average number of bidders in a tender category in State 2 vs. State 3
 - Canal construction tenders attracted 4.63 bidders per tender in State 2 vs. 2.64 bidders per tender in State 3 in 2011

Field study to identify root cause for poor performance

- A sample set of tenders could be analyzed within a tender category to identify root cause for poor performance (e.g.) road maintenance contracts obtained only 1.84 bidders in State 2 in 2013-14

Item codification and similar analysis of tenders from multiple States and eventually develop e-procurement systems to have a Data Analytics module.

Integration of online Government systems : Treasury ; e-Procurement ; Contract Management

Shifting to Data driven policy making



Procurement Planning/Budgeting



Procurement Rules



Policies for the development of private sector



Treasury Management



Governance

THANK
YOU

