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A Preliminary Analysis of e-Government Procurement Financial Management Information System Integration

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India

For the Asian Development Bank

Asian Development Bank

DISCLAIMER

This report has been prepared only based on the survey responses. No other primary or secondary research was conducted for better understanding of the responses. Hence, findings reported in this document are accurate to the extent the survey responses are accurate.

This report is prepared as per survey responses submitted by country representatives in 2014. Hence, developments subsequent to that time period are not reflected in this report.

ABOUT THE AUTHOR

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ABBREVIATIONS

AG	–	Accountant General
APP	–	Annual Procurement Plan
e-GP	–	electronic government procurement
FIFO	–	First In First Out
FMIS	–	Financial Management Information System
IT	–	Information Technology
PEFA	–	Public Expenditure and Financial Accountability
PFM	–	Public Financial Management
USD	–	United States Dollar

NOTE

In this report, "$" refers to US dollars

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EXECUTIVE SUMMARY

It has been over 2 decades since first e-procurement solutions were implemented. Now, most countries in the World have adopted e-Tendering for tender publication, online bid submission, bid evaluation and award of contract. Multiple countries mandated compulsory use of e-Tendering for procurement packages exceeding nominal threshold value. Such threshold values have progressively reduced, and some countries process 100% of the procurement online. At the same time, most countries implemented a Financial Management Information System (FMIS).

Though the activities handled in e-GP and FMIS are highly correlated and inter-related, most jurisdictions failed effectively interfacing these 2 systems. The lack of integration between the 2 systems has resulted in the following challenges: Budget and Annual Procurement Plan (APP) are in not in sync, Procurement is not in compliance with the APP, Budget entities commit the Government in excess of their budget allotment, real time value of accounts payables and number of approved invoices pending to be paid are often unknown, and suppliers are not paid in time. Contractual provisions for payment of interest for overdue invoices are unpopular, difficult to implement and very rarely included. Rent-seeking activities are not quantified, but considered not uncommon. The status quo as illustrated above is unhealthy and will get aggravated unless a reliable mechanism is implemented to enforce compliance to certain standards.

This paper seeks to identify integration of e-GP with FMIS as an important area of focus in the coming years. A set of actionable recommendations are provided for effectively integrating e-GP with FMIS:

(i) An approach is proposed to allow creation of a line item in APP only if it has the requisite budget allocation[1]. Further, a tender can be published only if it has an APP reference. Thus, Budget, APP and Tender are kept in sync.

(ii) A 2 layered commitment control system is proposed viz.:

   (a) Validate fund availability vis-à-vis the original budget allocation (i.e.) during tender publication

   (b) Confirmation on commitment of funds in FMIS is a pre-requisite for award of contract or contract enhancement in the e-GP system. When the value of a committed contract is reduced, the e-GP system will communicate with the FMIS to release the balance funds to the concerned accounting head.

(iii) The outstanding contract commitments and arrear payments will be automatically accounted for in the budget of the subsequent financial year. The Government will make new contract commitments only to the extent funds are available after the arrear payments and outstanding contract commitments are met.

A maturity model is proposed for eGP-FMIS integration, wherein the maturity is determined by both software functionality (i.e. controls) and fiscal discipline (i.e. policy). The countries can benchmark their status quo across these 2 dimensions and take measures to improve their position in the subsequent years. Under each of the 2 dimensions, 3 levels of maturity are defined thus creating a 3 x 3 maturity model. A country can make progress in a phased manner by advancing the system required for budget compliance.

It is argued that the integration of e-GP with FMIS can effectively control expenditure arrears and strictly enforce internal controls on non-staff expenditure. Considering which, the

[1] In multi-year projects, year-wise breakup of the project cost will be recorded.

inclusion of the following indicators in the subsequent versions of Public Expenditure and Financial Accountability (PEFA) framework is advised: Streamlined processing of procurement expenditure, Commitment control, Stock of procurement expenditure arrears, Outstanding contract commitments & Delay in arrears payment.

A survey questionnaire has been circulated to learn about the eGP – FMIS integration in the Asia Pacific region, refer Annexure for details. This questionnaire is circulated to about 35 countries in the Asia Pacific region as a part of a larger e-GP survey. The results of this survey will be processed and included in an updated version of this report. Subsequent to processing the survey responses, this study could be extended to evaluate in detail the existing eGP – FMIS integration in a couple of countries using the case study methodology.

I. INTRODUCTION

1. It has been over 2 decades since first e-procurement solutions were implemented. Now, most countries in the World have adopted e-procurement for tender publication, online bid submission, bid evaluation and award of contract. The countries which adopted e-Tendering have gradually expanded the functional coverage by implementing the following additional functional modules under the broader e-Government Procurement (e-GP) umbrella: Annual Procurement Plan (APP), e-Reverse Auction, e-Marketplace and Contract Management. Also, there is now increased focus in integrating the e-GP system with external Information Technology (IT) systems such as Banks, Business registration, Social Security and Tax authority.

2. The adoption of e-Tendering has resulted in the following benefits:

(i) Enhanced Transparency in Government procurement: The tender advertisements are available for public view and any interested party can view the tender documents and submit bids online.

(ii) Bid submission simplified: It is simpler and cost effective for bidders to submit their bids online. The bidders need not travel to the procuring entity office for bid submission.

(iii) Reduced printing: The sale of printed tender documents has become irrelevant in electronic tenders. Further, suppliers submit their bids online in electronic format. Such online submission has significantly reduced printing in the tendering process.

(iv) Reliable record keeping: All details about procurement processed using e-Tendering systems can be queried and obtained on demand. Storing electronic documents is cheaper and generally more reliable that storing paper documents.

(v) Massive data analytics potential: The e-Tendering systems have rich data about the procurement processed online, from which the following key stats are routinely obtained:

(a) Number of tenders published in a time period
(b) Value of tenders published in a time period
(c) Average number of bids received
(d) Time taken to complete the procurement
(e) Comparison of estimate vs. award value

3. The adoption of e-Tendering is mandated in most countries, wherein procurement exceeding certain threshold value shall compulsorily be processed online. The threshold values have progressively reduced and in few countries 100% of the procurement is processed online. Just as e-procurement, most countries have now implemented a Financial Management Information System (FMIS). The term FMIS in the context of this paper refers to 2 key modules: Budgeting and Treasury. The budget information recorded in FMIS is taken as the base reference against which payments are made out of the Treasury system. Broadly, checks and balances are implemented in FMIS to ensure that payments are made only to the extent funds are allocated to a budget entity.

II. PROBLEM STATEMENT

4. The processes handled by FMIS and e-GP are highly intertwined as in:
   (i) The 2 key inputs required for budget preparation are:
      (a) Annual Procurement Plan (APP) submitted by budget entities seeking fund allocation for the forthcoming year and
      (b) Existing contract commitments which the budget entities are yet to fulfil (e.g.) multi-year contracts by design, certain procurement which got spilled over and bills pending to be paid
   (ii) A budget entity should initiate procurement only if:
      (a) The procurement finds reference in the APP and
      (b) The funds are allocated for the procurement in the budget and preferably allotted. The term allocation herein refers to the initial budget made available to a budget entity. A budget is prepared based on revenue projections for the forthcoming year. Hence, the government could meet its budget commitments only if the fund receipt projections for the financial year is realized. As the year progresses, the Government evaluates its revenue collection and periodically (e.g. monthly or quarterly) allots funds against the allocation made to the budget entities confirming fund availability. The fund allotment is considered as a firm commitment by the Government, as against allocation which is essentially a plan.
   (iii) A budget entity should ideally award a contract:
      (a) Only to the extent funds are allotted to it for the said purpose and
      (b) Upon committing the contract amount against the fund allotment (i.e.) the funds already committed can be used only for the said purpose.
   (iv) A supplier registered in e-GP system, under ideal circumstances, need not share its profile and bank account details in duplicate to the agency processing invoice payment.

5. Despite these tightly coupled processes, e-GP and FMIS systems evolved in silos instead of evolving together as one integrated system. This lack of integration between the 2 systems has resulted in the following:
   (i) <u>Budget and APP are not in sync:</u> The budget entities are typically advised to submit their fund requirements for the forthcoming financial year, detailing their APP. In response, the budget entities individually submit their fund requirements. A budget committee or such mechanism evaluates the fund requirements and authorizes inclusion of one or more of the requirements in the budget. More often than not, the budget committee allocates only a fraction of the funds sought by the budget entities in their APP. Subsequent to the budget finalization, the APP is often not updated to be in sync with the approved budget. As budget is a material document against which the fund allocation is made, the APP loses its relevance subsequent to budget finalization.
   (ii) <u>Procurement is not in compliance with the APP:</u> When stand-alone e-GP systems do not validate whether a procurement finds reference in the APP and has requisite fund allocation in the budget, systemic controls are not implemented to ensure that procurement complies with the APP. Due to this lack of control, budget entities can initiate procurement which does not find reference in the APP or have budget allocation.
   (iii) <u>Budget entity commits the government exceeding its budget allotment:</u> The agency managing the government finances often require budget entities to get a fund

allotment letter or obtain administrative sanction before initiating the procurement. Despite obtaining the sanction, the budget entities commit the Government beyond its allotment on account of the following:

(a) The budget is prepared based on estimates submitted by the procuring entities. When a contract is awarded for an amount exceeding the estimate value, the procuring entity will commit the government in excess. For example, a procurement estimated at USD 100 during budget preparation could be awarded for USD 120 (i.e.) USD 20 is committed in excess.

(b) Due to unexpected developments, one or more variation orders are issued against a signed contract during execution. For example:
   a. Estimate: USD 100
   b. Contract awarded: USD 120 (i.e. difference of USD 20)
   c. Contract concluded - with variations included : USD 150 (i.e. difference of USD 50).

(c) When the contract concluded for USD 150 is committed in the FMIS, the difference of USD 50 has to be released from other fund sources (i.e.) chart of accounts managed by the budget entity or some other chart of accounts.

(d) Due to certain unforeseen emergency requirements, funds allotted for procurement is diverted to activities more important for the Government. Due to which, the Government does not have adequate funds to service its existing contract commitments.

(iv) The value and number of approved invoices pending to be paid is often unknown: The agency managing the finances will accept the invoices submitted by a budget entity and record it in FMIS only to the extent funds are available against the allotment made to the budget entity. An invoice does not get recorded in FMIS if there are inadequate funds allotted to the budget entity. Due to this validation check, the invoices pending to be paid (i.e. arrears) remain in the books (i.e. often in paper format) of the budget entities. Hence, it is not possible to know in real time the value and number of approved invoices pending to be paid.

(v) Invoices are not paid in time: The 4 issues explained above gets culminated over many years, causing long delays in processing the supplier invoices. As a result, the Government's reputation suffer, causing lower and poor-quality competition in its tenders and higher bid prices. Such higher prices aggravate noncompliance to budget which in turn causes longer delays in processing invoice payments. Such long delays in release of payments cultivates corruption, wherein the suppliers which participate in the rent seeking behaviour will be given preferential treatment. In the Table below, the actual payment arrear numbers in a country are proportionately miniaturized to illustrate the problem:

Overview of Arrears and Outstanding Contract Commitments - A Case Based Analysis			
S.no.	**Description**	**In USD**	**Ratios**
A	Projected budget for 2022	1000	
B	Projected procurement expenditure	585	
C	Arrear payments (i.e. bills taken into FMIS) - in 2021 and earlier	207	
D	Net available funds for procurement in 2022	378	
E	Outstanding contract commitments	1265	
F	Ratio of procurement expenditure to budget (i.e. B/A)		58.52%
G	Ratio of arrear payments to projected budget (i.e. C/A)		20.74%
H	Arrear payments as a % of projected procurement expenditure (i.e. C/B)		35.45%
I	Ratio of outstanding contract commitments to budget (i.e. E/A)		126.51%
J	Ratio of outstanding contract commitments to projected procurement expenditure (i.e. E/B)		216.20%
Notes			
1	If the arrear payments are paid out in 2022, the Government will have money to enter into fresh commitments for 65% (i.e. 100% - H) of the projected procurement expenditure or lower		
2	The outstanding contract commitments would include invoices accepted by the budget entities, but not inputted into FMIS due to paucity of funds		
3	Suppliers will submit fresh invoices against outstanding contract commitments, which will need to be paid out of the projected procurement expenditure. The Government needs to make provisions for the outstanding contract committements, before it allocates funds for entering into new commitments		
4	The outstanding contract commitments to projected procurement expenditure is 216		

Figure 1: Overview of arrears and outstanding contract commitments

6. The status quo as illustrated above is unhealthy and will get aggravated unless a reliable mechanism is implemented to enforce compliance to certain laid down norms.

III. APPROACH AND METHODOLOGY

7. The author has assessed 30+ e-Government Procurement implementations at different maturity levels across Asia, Africa and Eastern Europe. In few of the implementations, certain IT systems were in place for integrating e-GP with FMIS. Further, the author had studied in depth the procedures followed in practice (i.e. AS IS processes) in a developing country context for Budgeting, Annual Procurement Plan (APP) preparation, Tendering and Payment processing. The idea for this concept paper originated from these assessment and consulting experiences.

8. This paper seeks to identify integration of e-GP with FMIS as an important area of focus in the coming years. A set of actionable recommendations are provided for effectively integrating e-GP with FMIS. A broad-based study is required to investigate the effectiveness of the recommendations provided herein.

9. The European Dynamics prepared a report *"Incorporating e-Procurement in PFM reforms"*, for the e-Procurement Online Learning project of the World Bank. This paper details certain key principles underlying eGP – FMIS integration. Though there is an overlap in scope between the work of European Dynamics and this paper, there are certain key differences between the two as explained below:

(i) A maturity model is proposed for eGP-FMIS integration, wherein the maturity is determined by both software functionality (i.e. controls) and fiscal discipline (i.e. policy). A Government will need to take measures to gradually move into higher levels of maturity.

(ii) An approach is proposed to allow creation of a line item in APP only when there is requisite budget allocation. Further, a tender can be published only when there is an APP reference. Thus, Budget, APP and Tender are kept in sync.

(iii) A 2 layered commitment control system is proposed viz.:
  (a) Validate fund availability vis-à-vis the original budget allocation (i.e.) during tender publication
  (b) Confirmation on commitment of funds in FMIS is a pre-requisite for issuance of the award of contract or contract variation in the e-GP system.

(iv) The inclusion of the following indicators in the subsequent versions of Public Expenditure and Financial Accountability (PEFA) framework is advised:
  (a) Streamlined processing of procurement expenditure
  (b) Commitment control
  (c) Stock of procurement expenditure arrears
  (d) Outstanding contract commitments &
  (e) Delay in arrears payment.

IV. SYSTEM REQUIRED TO EFFECT BUDGET COMPLIANCE

10. The adoption of e-Tendering with close to 100% adoption is a key development, which makes implementation of the systems explained herein possible. Those countries which are yet to adopt e-Tendering or mandate its adoption should at first embark on implementation of the e-Tendering system. The e-Tendering and other modules of the e-GP system should be further developed and tightly coupled with FMIS as detailed below to ensure budget compliance. A pictorial view of the proposed eGP-FMIS integration is provided below:
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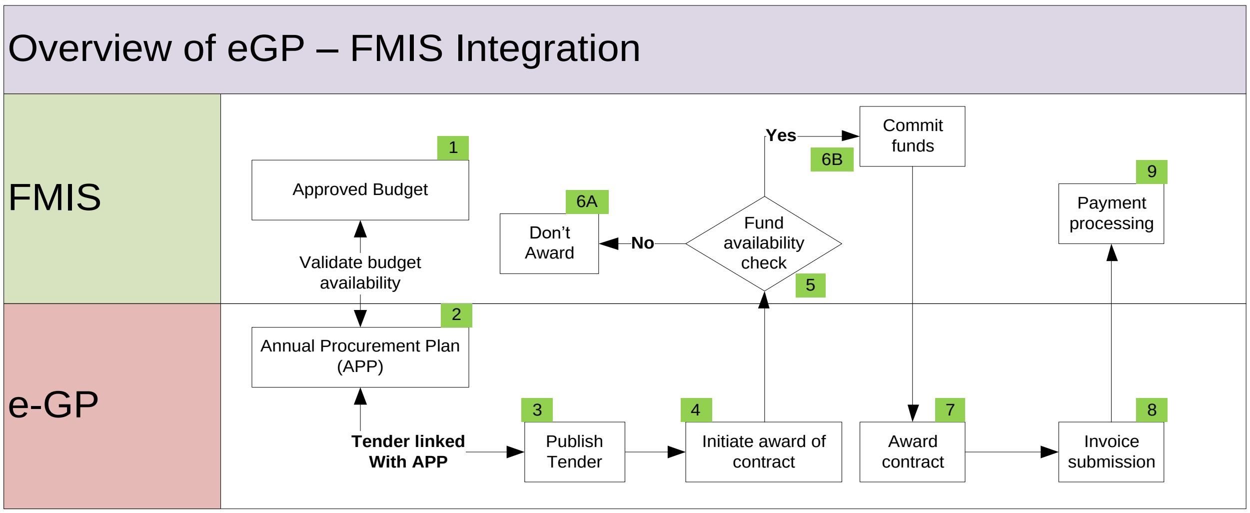

Figure 2: Overview of eGP – FMIS Integration

A. Prepare Annual Procurement Plan in a Unified Software

11. All budget entities shall compulsorily prepare the Annual Procurement Plan (APP) in a unified software. This software shall maintain multiple versions of the APP for a financial year viz.:

(i) Pre budget version of the APP
(ii) Post budget version of the APP, wherein the APP will be updated to be in sync with the approved budget and
(iii) A version wherein all the deviations will be recorded (i.e.) the actual plan vis-à-vis procurement in process or completed.

12. At end of the financial year, the items (ii) and (iii) can be compared to compute the extent of deviation, budget entity wise.

B. Compulsorily Link APP to Budget

13. The post budget versions of the APP will be linked with the Chart of Accounts in the budget. Such interlinking can be done either in batch mode or in real-time. In batch-mode based integration, the budget system will provide in file format the approved fund allocation, budget entity wise. This file will be uploaded into the e-GP system, which will be consumed during APP preparation. A mechanism has to be established to inter-link budget entities in the FMIS with procuring entities in the e-GP system; a key requirement for integration of FMIS and e-GP systems. Such integration will ensure that a procurement line item in APP cannot be created unless there is adequate budget allocation.

C. A Tender Compulsorily requires APP Reference

14. The validations in-built in e-GP system will ensure that a tender cannot be created unless it has a valid APP reference. Immediately after a tender is created, the system will automatically block the funds available in the budget head to that extent. If a tender got cancelled, the APP line item will be released against which a new tender can be published. This Budget – APP – Tender linkage ensures that procurement is done in compliance with the budget and the APP. There are 2 variations on the extent to which a Government seeks to commit itself in effecting budget compliance:

(i) High: Herein, the e-Tendering system will verify budget availability against the allotment and not the initial budget allocation. For example, if a budget entity is allocated USD 12,000 out of which only USD 6,000 is allotted, the system will allow the procuring entity to publish tenders only for USD 6,000.

(ii) Medium: The system in this case will validate fund availability vis-à-vis the initial budget allocation. For example, if a budget entity is allocated USD 12,000 for procurement of 4 different items, it can publish tenders for all the 4 items not exceeding USD 12,000.

D. Award Contracts only to the extent Funds are Available

15. The procuring entities will initiate award of contract in the e-Tendering system, which will query the FMIS in real-time to find out whether there are adequate funds remaining in the chart of accounts designated to the budget entity. The FMIS system will verify the allotment details, commit the funds and then provide the authorization or confirmation code required for contract creation. For example, if USD 9000 is allotted to a procuring entity against which an award of contract of USD 7000 is recorded, the system will instantly commit USD 7000 against the allotted funds. Subsequently, additional USD 2000 will be available for further consumption under the concerned chart of accounts. Alternatively, if a procurement estimated at USD 9000 had to be awarded for USD 12,000, the budget entity will need to find the additional USD 3000 from other sources. Unless the additional money is found and allotted to the concerned chart of accounts, the contract cannot be awarded.

16. In multi-year contracts, the commitment will be done against the budget requirements for the concerned financial year. If a contract could not be concluded or if it got cancelled partially during mid-way of contract execution, the contract cancellation will be made in the e-GP system only upon receiving the confirmation code from FMIS that the cancellation details got updated.

E. Record Variation Orders Online

17. A variation order shall compulsorily be tagged to the original contract against which the variation got issued. Further, each variation order can be attached to its own budget reference and it need not be tagged to the same budget reference attached to the original contract. There can be more than one variation order against a contract. The contract management module in the e-GP system will send a verification check to FMIS seeking to confirm fund availability for the variation amount. In response, the FMIS will commit the requisite funds towards the variation order, provided adequate funds are available in the budget reference associated with the variation order. If funds are unavailable/, the vote controller of the budget entity should get additional funds deposited into the budget reference either by way of a virement or through additional fund allotment. Upon receipt of the confirmation code from FMIS, the variation order will be generated

online in the contract management module of the e-GP system and issued to the concerned supplier. Thus, the e-GP system will have rich data on the extent to which contracts underwent variations.

F. Submit Supplier Invoices Online from e-GP to FMIS

18. The e-GP system will validate and require suppliers to submit invoices online, capped at the contract value. All the documents sought by the FMIS team for payment processing will be generated in the e-GP system to the extent possible, or else uploaded and digitally signed either by suppliers or procuring entity representatives. The data and the documents required for payment processing will be submitted online directly from the e-GP system to FMIS. As a contract is created vis-à-vis fund allotment confirmation, the FMIS would compulsorily accept all the bills submitted online from the e-GP system. The suppliers will log into the e-GP system, digitally sign and update their Bank account details. The vendor ID creation in FMIS for all suppliers registered in the e-GP system will be done automatically based on the data feed provided by the e-GP system.

G. Make Provision for Payment Arrears & Multi-Year Contracts

19. Due to certain unforeseen circumstances such as unexpected drop in revenue collection in the last 2 quarters or reallocation of funds to address force majeure conditions, the Government might not have the funds to meet the contractual commitments it made during the present financial year. As all contracts will be awarded based on fund allotment, adequate funding should be provisioned in the budget prepared for the subsequent financial year to address the outstanding contract commitments and arrear payments. Also, the outstanding contract commitments in multi-year contracts should be explicitly accounted for during the budget preparation exercise. Ideally, the Government should make fresh contract commitments only to the extent funds are available after the arrear payments and outstanding contract commitments are met.

V. KNOWN LIMITATIONS OF THE PROPOSED APPROACH

20. The implementation of the new system as detailed in the 7 recommendations explained in the previous section will significantly contribute towards effecting budget compliance. However, there could still be lapse in budget compliance on account of the following:

(i) Government does not have adequate funds to meet its financial commitments due to:
   (a) Gross mismatch between the revenue projection and the actual revenue collection
   (b) A significant percentage of the revenue had to be reallocated to address unforeseen emergency conditions
   (c) Early release (i.e. allotment) of funds by the budget authority, under pressure from the procuring entities for funding.

(ii) The government exercises fiscal imprudence through allocation and allotment of funds it does not have (i.e.) either fictitiously or by taking loans beyond its payment capacity. In which case, the checks and balances in-built in the proposed system will fail to effect budget compliance.

(iii) When a Government accumulated significantly high payment arrears and outstanding contract commitments from the previous years, complete enforcement of the fiscal discipline envisaged herein will cause disruption in governance. As the continued growth in payment arrears will eventually cause total breakdown, the Government can adopt a phased approach to gradually improve the payment arrear ratios and thus improve its fiscal health over a period of time. In the next section, a phased approach is recommended for enhancing fiscal discipline.

21. The point (i) will however get addressed if the Government exercises fiscal discipline in the subsequent financial year by making adequate budget allocation for the spill over arrear payments and outstanding contract commitments.

VI. MATURITY MODEL OF EGP – FMIS INTEGRATION

22. Most countries have a robust e-GP system functioning for close to a decade. In the last few years, a few countries have gone further than e-Tendering with the implementation of APP, Contract Management, e-Reverse Auction and e-Marketplace. Thus, countries have reached different levels of maturity in implementation of e-GP system functionality. Besides the software, this paper has brought into focus the need for fiscal discipline. Just as it is with the software functionality, the countries with excellent economic strength can decide to keep the pending arrear payments at nil and initiate fresh contracts only to the extent funds are available. The weaker economy countries seeking higher growth might opt for higher pending arrear ratios. Regardless, a mechanism is required to position the countries with reference to:

(i) Software functionality and
(ii) Fiscal discipline

23. The countries can benchmark their status quo across these 2 dimensions and take measures to improve their position in the subsequent years. Under each of the 2 dimensions, 3 levels of maturity are defined thus creating a 3 x 3 maturity model. A country can make progress in a phased manner by advancing the system required for budget compliance. The levels of progress in each of the 2 dimensions are explained in this section.

A. Software Functionality

24. The establishment of a unified e-Tendering platform is an essential pre-requisite to implement the eGP-FMIS integration. Hence, only those countries with at least the e-Tendering functionality are mapped into this framework.

eGP - FMIS Integration: Software Functionality				
S.no.	Functionality	Extent of Integration		
		No Integration	Backend integrated	End-to-End Integrated
1	e-Tendering	X	X	X
2	Annual Procurement Plan (APP) module		X	X
3	APP linked with budget		X	X
4	Tender validates APP & budget reference		X	X
5	Validate budget availability during Award of contract		X	X
6	Variation orders management			X
7	Online contract management			X
8	Spill over payment & multi-year contracts			X

Figure 3: eGP – FMIS Integration: Software Functionality

25. The software functionality required for implementing the envisaged system is broadly categorized as under:

(i) No integration: These are stand-alone e-Tendering systems with no integration with APP, budget, contract management module and Treasury systems.
(ii) Backend integrated: The APP feature is implemented as an integral part of the e-GP system and it is linked with the APP module. During tender creation, the system validates whether the procurement is found in APP and if it has adequate budget allocation. Further, the e-Tendering system seeks to block funds in FMIS against the budget allotment as a pre-requisite for award of contract.

(iii) <u>End-to-end integrated:</u> The online contract management function is implemented as an integral part of e-GP system, wherein the suppliers submit their invoices online. The invoices thus submitted are electronically updated in the FMIS system for payment processing. All contract variations sought by the suppliers are also handled online in the e-GP system. If an approved invoice remains unpaid as arrears payment, the eGP-FMIS integration will ensure that adequate budget allocation is done for the arrears payment during the budget allocated in the subsequent year.

B. Fiscal Discipline

26. In the context of this paper, a government is fiscally disciplined when it does procurement only to the extent funds are available. When an e-Tendering system is not integrated with the FMIS for budget verification, fiscal discipline on account of procurement cannot be ensured. A government would be considered fiscally prudent when it does budget allotment based on funds available. Such allotment is infeasible in most governments due to paucity of funds and demand from the citizens for timely delivery of better civil infrastructure, goods and services. Hence, Governments initiate the procurement based on budget funds and not the actual cash.

eGP - FMIS Integration: Fiscal Discipline				
S.no.	Requirement	Extent of Discipline		
		Undisciplined	Somewhat Disciplined	Disciplined
1	e-Tendering system does not validate fund availability	X		
2	A tender cannot be initiated unless it has budget allocation		X	
3	A tender cannot be initiated unless it has budget allotment			X
4	A contract cannot be awarded unless it has budget allotment		X	X
5	Variation order issued online upon receipt of budget allotment			X
6	Budget alloted based on cash in Bank			X
7	Arrears pending to be paid is delayed by > 1 financial year	X		
8	Value of approved procurement invoices paid on First-In-First-Out (FIFO) basis in at least 2 of the last 3 completed fiscal years	< 90%	90 - 98%	> 98%
9	Procurement arrear payments - total procurement expenditure ratio in at least 2 of the last 3 completed fiscal years	> 10%	2 - 10%	< 2%
10	Outstanding contract commitments - projected procurement expenditure ratio in at least 2 of the last 3 completed fiscal years	> 30%	15 - 30%	< 15%

Figure 4: eGP – FMIS Integration: Fiscal Discipline

27. As there is a latency period of about 3 months to complete the tendering cycle and considering that the procuring entity can cancel the tendering process any time after tender publication until the contract is awarded, a tender can be initiated based on funds allocated in the budget. The contract however shall be issued only based on fund allotment confirmed by the concerned budget authority. When a contract is awarded, the Government ought to have committed the funds required for successful completion of the contract. In multi-year contracts, the funds required for completing a scheduled portion of the contract should be allotted on priority and should find due reference in the budget of the forthcoming years. Further, a contract variation should be issued only after due budget allotment is made just as it is with issuance of a new contract.

28. There would not be arrear payments when a government is fiscally prudent. However, due to emergency situations, arrear payments can result. It is argued that such arrear payments will amount to indiscipline when:

(i) The ratio of procurement expenditure arrears – actual procurement expenditure (for the subsequent financial year) – exceeds 10%[2] in at least 2 of the last 3 completed fiscal years.

(ii) Procurement arrear payments are pending to be paid for more than 1 financial year. For example, in 2019, the Government should at the most make arrear payment from 2018 and it should not have bills pending to be paid from 2017 or earlier.

29. It is argued that outstanding contract commitments entered into by the Government in the previous financial years shall not exceed 15% of the projected procurement expenditure for the subsequent financial year. While computing this ratio, the contract commitment of only one financial year will be considered in multi-year contracts and not the entire contract value. Refer below for illustration:

(i) Contract value: USD 1000
(ii) Awarded year: 2018
(iii) Year-wise breakdown
  (a) 2018: USD 200
  (b) 2019: USD 300
  (c) 2020: USD 500
(iv) Amount to be considered while computing the outstanding contract commitment in 2019: USD 300.

30. If outstanding contract commitment exceeds 30%, the government will be left with less than 70% of its budget to initiate new procurement. Such a situation is unhealthy as the Government will be restricted from initiating new contracts, causing disruption in public service delivery. To keep this ratio in check, the Government should prune older contracts and close the contracts which do not fit into Government's priorities. Also, to the extent possible, the Government should enter into contracts to be executed within a single financial year.

31. It is often the case that a recently approved invoice is paid out while many older invoices are pending to be paid. When there are inadequate funds – which is often the case in developing countries – key decision makers in the government with discretionary powers decide on the sequence to be followed for payment of the invoices. Such discretionary decision making cultivates rent seeking behaviour, causing the suppliers to quote a higher bid value. If the Government could develop a system with the requisite checks and balances to ensure First-In-First-Out (FIFO) practice for processing approved invoices, the suppliers will get a fair treatment and can learn about the number and value of invoices yet to be paid before their invoice is due for payment. To accommodate emergency requirements, it is proposed that a Government is considered as disciplined when at least 98% of the procurement invoices are paid on FIFO basis in at least 2 out of the last 3 completed fiscal years. The integration of e-GP with FMIS can effectively enforce FIFO payment for procurement related expenditure.

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[2] The Public Expenditure and Financial Accountability (PEFA) framework or the Public Financial Management Performance framework refers to measurement of expenditure arrears in Dimension 22.1. viz. The stock of expenditure arrears is no more than 2% of total expenditure in at least two of the last three completed fiscal years. This ratio could not be used in this report exactly as in the PEFA framework because the focus of this paper is limited to procurement related expenditure and not overall expenditure.

32. The ratios specified herein are indicative numbers, which can be revised from time to time based on field studies. Refer to the Figure below for a pictorial view of the proposed maturity model for integration of eGP with FMIS:

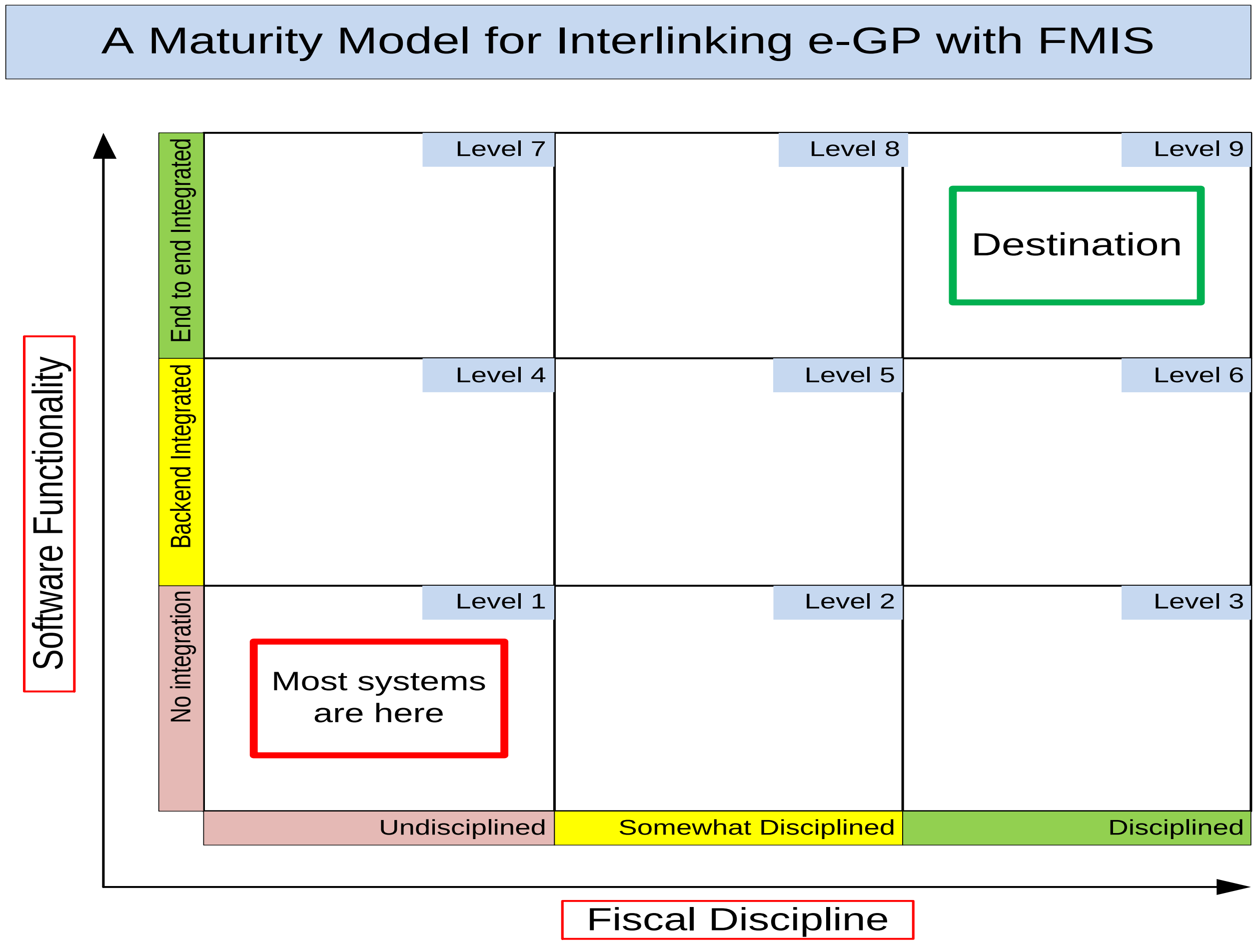

Figure 5: A Maturity Model for Interlinking e-GP with FMIS

VII. INPUTS FOR REVISION OF THE PEFA FRAMEWORK

33. The Public Expenditure and Financial Accountability (PEFA) framework[3] was designed by 7 development partners (i.e. The European Commission, International Monetary Fund, World Bank, and the governments of France, Norway, Switzerland, and the United Kingdom) to harmonize assessment of Public Financial Management (PFM) systems using a standardized methodology. As per PEFA, a PFM is evaluated across 31 indicators classified under 7 pillars viz. Budget reliability, Transparency of public finances, Management of assets and liabilities, Policy based fiscal strategy and budgeting, Predictability and control in budget execution, Accounting & reporting and External scrutiny & audit. Of these, the following indicators are relevant to this paper:
    (i) *"Expenditure arrears"* as defined in Section 22 of the PEFA Framework:
        (a) Stock of expenditure arrears
            1. The stock of expenditure arrears is no more than 2% of total expenditure in at least two of the last three completed fiscal years.
            2. The stock of expenditure arrears is no more than 6% of total expenditure in at least two of the last three completed fiscal years.
            3. The stock of expenditure arrears is no more than 10% of total expenditure in at least two of the last three completed fiscal years.
        (b) Expenditure arrears monitoring
            1. Data on the stock, age, and composition of expenditure arrears is generated quarterly within four weeks of the end of each quarter.
            2. Data on the stock and composition of expenditure arrears is generated quarterly within eight weeks of the end of each quarter
            3. Data on the stock and composition of expenditure arrears is generated annually at the end of each fiscal year.
    (ii) *"Internal controls on nonsalary expenditure"* as defined in Section 25 of the PEFA Framework
        (a) Effectiveness of expenditure commitment controls
            1. Comprehensive expenditure commitment controls are in place and effectively limit commitments to projected cash availability and approved budget allocations.
            2. Expenditure commitment controls are in place and effectively limit commitments to projected cash availability and approved budget allocations for most types of expenditure.
            3. Expenditure commitment control procedures exist which provide partial coverage and are partially effective.

34. Besides the above, the PEFA has a couple of indicators related to e-GP as defined in Section 24 of the PEFA framework: Procurement
    (i) Procurement monitoring and
    (ii) Public access to procurement information

35. As these 2 indicators are related to e-GP and not specifically to eGP-FMIS integration, they are not considered as pertinent to this paper.

36. The PEFA framework was originally published in 2011 and it was subsequently revised in 2016 and 2019. In this paper, it is argued that the integration of e-GP with FMIS can effectively control expenditure arrears and strictly enforce internal controls on procurement expenditure.

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[3] https://www.pefa.org/resources/pefa-2016-framework

Considering which, it is suggested that a section on eGP-FMIS integration is included in the subsequent versions of PEFA. Refer below for the requirements which can be included under eGP-FMIS integration:

(i) Processing of procurement expenditure invoices in FIFO model
   (a) The value of approved procurement invoices as a percentage of procurement expenditure paid on First-In-First-Out (FIFO) basis is more than 98% in at least 2 of the last 3 completed fiscal years.
   (b) The value of approved procurement invoices as a percentage of procurement expenditure paid on First-In-First-Out (FIFO) basis is more than 90% range in at least 2 of the last 3 completed fiscal years.
   (c) The value of approved procurement invoices as a percentage of procurement expenditure paid on First-In-First-Out (FIFO) basis is less than 90% in at least 2 of the last 3 completed fiscal years.

(ii) Enforcing commitment control
   (a) The e-GP system disallows publication of a tender unless the funds required for undertaking the procurement is committed in FMIS.
   (b) The e-GP system disallows award of contract unless the funds required for undertaking the procurement is committed in FMIS.

37. Besides the above, the following additional indicators can be incorporated in the PEFA framework:

(i) Stock of procurement expenditure arrears:
   (a) The stock of procurement expenditure arrears is no more than 2% of the total procurement expenditure in at least 2 of the last 3 completed fiscal years.
   (b) The stock of procurement expenditure arrears is no more than 10% of the total procurement expenditure in at least 2 of the last 3 completed fiscal .years.
   (c) The stock of procurement expenditure arrears is more than 10% of the total procurement expenditure in at least 2 of the last 3 completed fiscal years.

(ii) Outstanding contract commitments:
   (a) The outstanding contract commitment is no more than 15% of the projected procurement expenditure ratio in at least 2 of the last 3 completed fiscal years.
   (b) The outstanding contract commitment is no more than 30% of the projected procurement expenditure ratio in at least 2 of the last 3 completed fiscal years.
   (c) The outstanding contract commitment is more than 30% of the projected procurement expenditure ratio in at least 2 of the last 3 completed fiscal years.

(iii) Delay in arrears payment:
   (a) The procurement expenditure arrears are paid in its entirety within the subsequent financial year.
   (b) The procurement expenditure arrears are not paid in its entirety within the subsequent financial year.

VIII. NEXT STEPS

38. The maturity model for integration of e-GP with FMIS is developed based on an isolated study of tendering and FMIS, implemented in a couple of countries and non-governmental agencies. A survey questionnaire is circulated to about 35 countries in the Asia Pacific region, as a part of a larger e-GP survey to learn about the eGP – FMIS integration in the Asia Pacific region, refer Annexure for details. The results of this survey will be processed and included in an updated version of this report. Subsequent to processing the survey responses, this study could be extended to evaluate in detail the existing eGP – FMIS integration in a couple of countries using the case study methodology.

IX. ANNEXURE – SURVEY QUESTIONNAIRE

eGP – Financial Management Information System (FMIS) Integration					
1	Select one or more of the following regarding integration of e-GP system with FMIS:				
	A		Yes. The e-GP system is integrated with FMIS		☐
	B		It is not integrated as yet. But there are plans to integrate the e-GP system with FMIS in the near future		☐
	C		No. There is not any plan as on date to integrate e-GP with the FMIS		☐
	D		Others		
2	If “A” option (i.e. e-GP is already integrated with FMIS) is selected in response to Question 20, provide details about the integration:				
	A		The Annual Procurement Plan is prepared using a unified, centrally hosted software application	Yes ☐	No ☐
	B		The Annual Procurement Plan (APP) is synchronized with the approved budget	Yes ☐	No ☐
	C		A <u>tender</u> cannot be published unless the procurement finds a corresponding reference in the APP. In other words, a tender can be published only if it finds a reference in the APP.	Yes ☐	No ☐
	D		The e-GP system commits in FMIS the funds required for procurement as pre-requisite for tender publication	Yes ☐	No ☐
	E		The e-GP system commits in FMIS the funds required for procurement as pre-requisite for award of contract	Yes ☐	No ☐
	F		The e-GP system seeks commitment of funds in FMIS against (select only one):		
		A	Budget allocation (i.e.) the budget initially published		☐
		B	Budget allotment (i.e.) funds released periodically		☐
		C	Commitment of funds in FMIS is not a pre-requisite to initiate a procurement in the e-GP system		☐
		D	Remarks		
	G		Does the e-GP system have the provision wherein the suppliers can submit their invoices online in the e-GP system?	Yes ☐	No ☐
	H		The bills approved in the e-GP system are automatically submitted in the FMIS system for payment processing	Yes ☐	No ☐
	I		The Bank account details of the supplier recorded in the e-GP system is submitted to FMIS as an integration feature	Yes ☐	No ☐
	J		A variation order to an existing contract cannot be issued in the e-GP system unless the requisite funds are committed in FMIS	Yes ☐	No ☐
	K		Select one or more functionality implemented in the software regarding arrear payments & multi-year contracts:		
		A	Provision to record budget allocation for multiple years during APP preparation		☐
		B	During APP preparation, the e-GP system will automatically deduct outstanding commitments from the existing multi-year contracts and allow the procuring entities to create APP only to the extent funds are available		☐
		C	During APP preparation, the e-GP system will automatically deduct outstanding commitments from the previous year arrear or spill over payments and allow the procuring entities to create APP only to the extent funds are available		☐

	L	There is a software system implemented to generate the following reports on-demand:			
		A	Arrear payments as on date	Yes ☐	No ☐
		B	Outstanding contract commitments as on date	Yes ☐	No ☐