Terms of Reference
Development of KIAT Guru Mobile Phone Application & Management Information System (KIAT App & MIS)
KIAT Guru Phase 2

A. Background

Program Overview

To improve frontline service delivery in education sector, starting in 2016, the World Bank Social Development unit has been providing technical assistance for the National Team for Acceleration of Poverty Reduction (TNP2K), under the Secretariat of the Vice President of the Republic of Indonesia, and the Ministry of Education and Culture (MoEC) to improve teacher performance and accountability through the "KIAT Guru: Improving Teacher Performance and Accountability" project (P159191), referred to as KIAT Guru Phase 1 (KGP1).

The KGP1 tested models to improve teacher presence and service performance in remote primary schools by empowering community members and tying payment of *Tunjangan Khusus Guru* (Teacher Special Allowance, hereafter TKG) to either teacher presence or teacher service performance. A Community Empowerment Mechanism (CEM) provides community members with an explicit role to monitor and evaluate teacher service performance and to ensure teacher accountability. There is also a Pay for Performance Mechanism (PPM), which links the payment of TKG with either teacher presence or teacher service quality. The efficacy of the two mechanisms has been tested by combining them into three intervention groups i.e. (1) CEM; (2) CEM + PPM based on teacher presence; and (3) CEM + PPM based on a broad measure of the quality of teacher service performance.

The KGP1 impact evaluation shows positive impacts, particularly for Group 2 where teacher allowance is tied with teacher presence and verified by external stakeholders. KGP1 monitoring and qualitative study results identified four aspects that contribute to improvements in education quality: 1) involvement of external stakeholders in the implementation, monitoring, and assessment of education service; 2) enhancement of parents' involvement in supervising learning; 3) assessment of teacher performance using simple and objective indicators; and 4) payment of teacher allowance based on objective performance indicators.

Based on findings and lessons learned from KGP1, MoEC and TNP2K request to expand the scope to KIAT Guru Pilot Phase 2 (KGP2). In addition, MoEC also would like to test the KIAT Guru mechanism in secondary education level and using the *Tunjangan Profesi Guru* (Teacher Professional Allowance, hereafter TPG). The World Bank appointed Yayasan BaKTI as Grant Recipient for both the KGP1 and KGP2.

A key component of KGP2 is the development of a KIAT Guru mobile phone application and Management Information System (MIS) (hereafter, KIAT App and MIS). The KIAT App aims to record teacher presence, register verification of teacher presence and teacher performance evaluation, and

administer a diagnostic student learning assessment tool. The KIAT MIS will compile school-level inputs from KIAT App and aggregate them at the district level, with web-based and phone-based dashboards for schools and district and national level governments to monitor progress, process TKG payment based on verified teacher presence, and analyze trends over time. The App will also provide a prognosis to inform TKG-recipient teachers of the amount of TKG due to them every month, based on their verified presence. Both the KIAT App and MIS will also integrate the complaint handling and redress mechanism, whereby school- and village-level stakeholders can register their complaints through the KIAT App and monitor the progress directly, while the MIS system will compile and manage the handling of the complaints, with automatic notifications to a higher-level government staff if the complaints are not resolved according to agreed procedure. To this end, Yayasan BaKTI, with technical support from the World Bank, seeks to engage a third-party implementer/ service provider company to develop the KIAT App and MIS, in collaboration with TNP2K, MoEC, district governments, and representatives of school stakeholders.

KIAT Guru Phase 2

Still focusing on the five pilot districts, the scope of KGP 2 will include sustaining of 68 KGP1 "Group 2" schools, converting 135 KGP1 "Group 1" and "Group 3" to "Group 2", expanding the scope to 183 KGP2 schools, and testing the mechanism for secondary education level and using TPG in up to 40 schools in more urban locations of the five districts.

A key principle to the intervention design of KGP2 is the scalability of the mechanism for government-led nation-wide policy implementation. As such, firstly, the expansion to 183 schools will test two mechanisms: with and without project facilitators. The first mechanism, KGP2 Group A, will initially be implemented by NGO facilitator, and later handed over to village stakeholders. The NGO facilitator will identify in each village three village cadres who will be trained along with representatives from village government, school, parents, and community members. The NGO facilitator's visits to the village will be limited to a maximum of three visits, with each covering seven villages. The NGO facilitators will set up a User Committee, membership to which will include community leaders, School Committee, three Village Cadres, and parent representatives. Meanwhile, KGP2 Group B will be implemented by school principals, supported by village heads, who will conduct socialization at the school level and revitalize the School Committee (SC), in line with the MoEC Ministerial Regulation 75/ 2016. The role and responsibilities of the KGP2 Revitalized SC will be expanded to include the supporting and evaluating teacher service performance.

Secondly, the CEM facilitation process for KGP2 will be streamlined. The development of Service Agreement between teachers and parents, community members, and village government will be simplified by providing the school stakeholders with a consolidated list of KGP1 indicators that have been analyzed as the most effective in improving learning outcomes. For each school stakeholder, only three indicators will be agreed upon, with a total score of 100. For KGP2 Group A, the school stakeholders will be facilitated to elect three indicators from the consolidated list, and they also decide on the specification of the indicators[1]. For KGP2 Group B, the selection process will be led directly by the

[1] For example, if one of the three indicators is "teacher provides additional lessons for students who fall behind in reading and math," the specification needs to make the indicator quantifiable by identifying how many lessons per

school principal. For both Group A and Group B, each teacher will have a Teacher Score Card derived from the Service Agreement. Table 1 compares the differences between the two groups. Since the details and differences between Group A and Group B are still evolving, the third-party implementer/service provider company should check with the World Bank's Task Team Leader for KIAT Guru before proceeding with the KIAT App and MIS development.

Table 1. Comparison between KGP2 Group A and KGP2 Group B

	KGP2 Group A	**KGP2 Group B**
Implemented by	NGO facilitators (maximum of 3 meetings*), hand over to 3 Village Cadres	School principal (supported by Village Head and School Committee)
Initial Phase Meetings	*Village socialization	Village socialization
	*School stakeholders select three Service Agreement indicators from a consolidated list, and define the specifications of the Teacher Score Card indicators	School stakeholders select three Service Agreement indicators from a consolidated list, and define the specifications of the Teacher Score Card indicators
	Setting up of User Committee*	Revitalizing of School Committee
Implementation	Monthly meeting to discuss Service Agreement and evaluate Teacher Score Card (with facilitator one time only*)	Monthly meeting to discuss Service Agreement and evaluate Teacher Score Card
Evaluation	Semi-annual meeting to review Service Agreement, Teacher Score Card indicators, and memberships of the User Committee	Semi-annual meeting to review Service Agreement and Teacher Score Card indicators

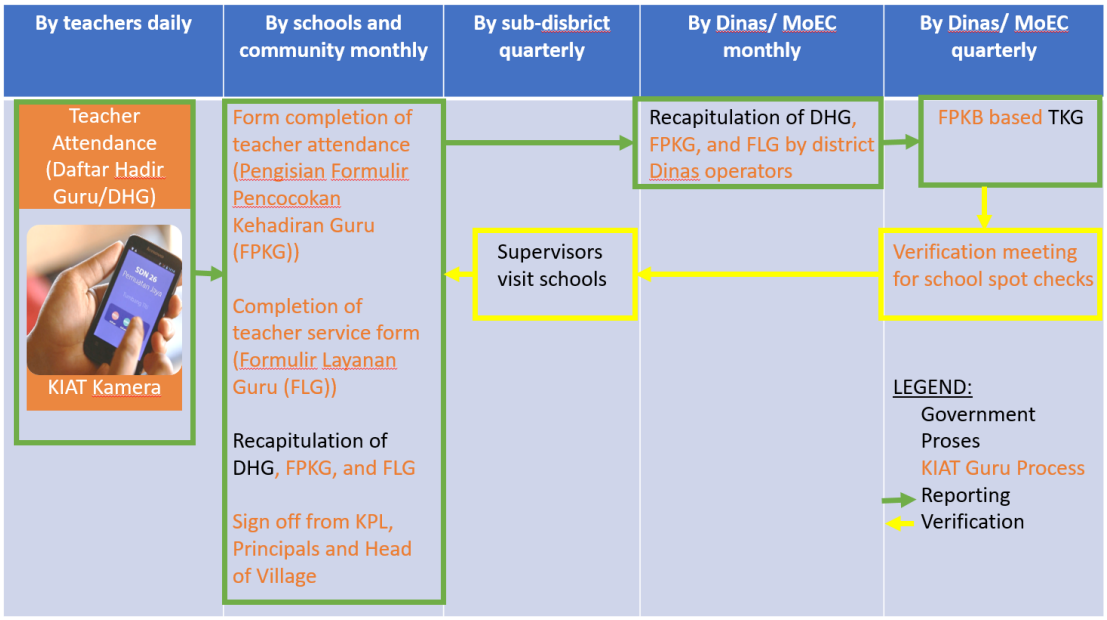
The establishments of Service Agreement and Teacher Score Card mark the end of the Initial Phase and the beginning of the Implementation Phase (Figure 1). During this phase, teachers will be required to record their daily presence in school using a mobile phone application (KIAT App). At the end of every month, meetings with school stakeholders will be conducted to discuss the implementation of the Service Agreement indicators by each of the school stakeholders. Teacher Score Card will be evaluated by either the User Committee (Group A) or School Committee (Group B) for each teacher. In addition, they will verify whether teacher absence is excused or unexcused (hereafter, verified teacher presence).

Thirdly, the administration of monthly reports on teacher presence and service performance and its implication for teacher allowance payment need to be digitized to reduce processing time by the district and national government staff. In addition to recording daily teacher presence, the KIAT App and MIS for KGP2 need to register the verified teacher presence along with relevant evidence and input the result of

week or per month need to be provided by a teacher. As the total weight for all three indicators will be 100, at the local level, the weight of each indicator should be agreed upon.

Teacher Score Card and its supporting documentations. In addition, the signing off by school principal, village head and either the head of the User Committee or School Committee need to be digitized through the KIAT App. The App will also provide a prognosis to inform TKG-recipient teachers of the amount of TKG due to them every month, based on their verified attendance/absence.

Figure 1. TKG Payment Process in KIAT Guru Remote Pilot



On a quarterly basis, the district governments will conduct a verification meeting and identify follow-up actions needed. The purpose of the verification meeting is first to recapitulate the verified teacher presence and teacher performance score. Results of verified teacher presence is tied with the amount of teacher remote area allowance (TKG) payment for each teacher. Technical workshops will be conducted with MoEC to determine whether the formula for TKG based on presence need to be changed. During KGP1, the formula was developed based on government regulation for civil servants (Perka BKN 12/ 2016). Evaluation is based on a full day presence (no allowance cut), partial presence (cut by up to 1.5% daily), excused leaves (cut by 2%), and unexcused absences (cut by 5%). Teachers whose presence fall below 85% in a month do not receive their TKG at all. In addition, the result of teacher presence and performance should enable district governments to identify schools that may need additional nudge from school supervisors. During this meeting, challenges and problems arise from implementation should also be discussed and resolved.

Fourthly, information dissemination to school stakeholders need to be simplified and two-way communications between school stakeholders and district governments need to be improved. Group B represents a more classical top-down government decision making and implementation approach that can be implemented strictly under the education system. This intervention group will be the easiest for a national scale-up since it involves an implementation mechanism that is highly standardized. However, this mechanism is also prone to a higher risk of implementation failure, as information is often provided as technical guidelines to clarify government regulations rather than step-by-step practical guidelines. Yayasan BaKTI will develop these more practical guidelines, along with infographics and short videos that will be made accessible to school stakeholders in various platforms. In addition, it is important to

provide school stakeholders with means of communicating with district governments beyond face-to-face meetings, to ask questions, clarify some steps, seek guidance, or solve implementation problems or challenges. The KIAT App and MIS will integrate a complaint handling and redress mechanism, whereby school- and village-level stakeholders can register their complaints through the KIAT App and monitor the progress directly, while the MIS system will compile and manage the handling of the complaints, with automatic notifications to a higher-level government staff if the complaints are not resolved according to agreed procedure.

At the end of every semester of implementation, in line with academic calendar, an Evaluation Phase will be conducted to review Service Agreement and Teacher Score Card indicators. During KGP1, a few stakeholders at the village level were trained to administer an adaptive Diagnostic Student Learning Assessment (Diagnostic SLA) prior to the evaluation meeting. Results of the Diagnostic SLA were shared during the evaluation meeting, to better informed the stakeholders on learning outcomes. Following this evaluation meeting, Teacher Score Card indicators and weights on improving student learning increased from 33% to 48%.

Therefore, fifthly, the KIAT App and MIS will include a digitized Diagnostic SLA. External stakeholders (Village Cadres and User Committee members for Group A and School Committee members for Group B) will be trained to administer the Diagnostic SLA and share results with the school stakeholders. Ideally, the Diagnostic SLA should be administered at the beginning of the Initiation Phase before school stakeholders select the Service Agreement and Teacher Score Card indicators.

KIAT App and MIS: Definition and Development Principles

MIS (Management Information System) is "a tool that facilitates the collection, processing, management, and dissemination of data essential for program operations, accountability, and policy making (The World Bank, 2008)"[2]. With the vast development of Information Communication Technology, the KIAT MIS needs to be digital-based, accessible on computers and mobile devices.

KIAT App is defined as mobile device application that will provide a platform and interface between users and the overall MIS to facilitate implementation of KIAT Guru.

The development of KIAT App and MIS should adhere to the following principles and purposes:

1. Efficiency principle: to reduce administrative load for the government.
2. Effectiveness principle: to support accurate data collection process for teacher presence, teacher performance evaluation, and teacher allowance payment.
3. Transparency and accountability principle: to improve transparency and accountability in TKG payment process.
4. Collaborative principle: the design and development is an iterative and collaborative process among relevant stakeholders.

[2] The World Bank (2008). *Management Information Systems.* Retrieved from: http://siteresources.worldbank.org/SAFETYNETSANDTRANSFERS/Resources/281945-1291746977764/11-mis.pdf

B. Purpose of This Document

This document provides the terms of reference for KIAT App & MIS development, to be used by third-party implementer/system developer, elaborating:

1. Background of KIAT App & MIS development
2. KIAT App & MIS scope and requirements;
3. User information and data information needs and other technical requirement of the KIAT App & MIS;
4. System developer scope of work and requirement
5. Timeline and institutional arrangement.

C. Scope of the System

Although it may be altered based on the consultation process, among others, this system will be required to:

1) Operate using multiple platforms: particularly web-based and mobile android operating system. Where possible also to be operated using IoS operating system.

2) Be available at Google Play or App Store for easy downloads.

3) Run both online and off-line mode (Hybrid App), with automatic data back-up and deletion. (Note: off-line mode may have delays of data submission. When this is the case, an off-line contingency mechanism should be in place to ensure punctuality of payment through off-line mechanism). This system need to allow data pull from current KIAT Guru applications[3].

4) Databases retrieval and update:
   - As much as possible, retrieve/populate from and synchronized with teacher databases from DAPODIK, KIAT Guru current databases, and other local government databases (usually from BKD and Dinas). This will include obtaining access to the data from government and where possible, the system should allow remote changes on teacher data (due to teacher mutation/ retirement/ change of status and eligibility for TKG).
   - The system should require a one-time verification from principals and head of villages that the pictures match the names.
   - The system should be tamper-proof: date, time, and data cannot be changed.
   - Schools will be able to update teacher databases and changes will be submitted to Dinas or MoEC for one-time verification. These updates will be reported to relevant stakeholders (Dinas, BKD, MoEC, villages, etc.) to ensure all stakeholders are well informed.

5) **The system is to include 8 main features**:
   a) KIAT Admin Rapat:
      - To document the date types of meetings occurred (village socialization/ setting up of service agreement/ setting up of user committee or school committee/ monthly

[3] Currently, KIAT Guru applications include – among others: KIAT Kamera, KIAT Nilai, and KIAT Rekap. These applications are run both online and offline, using Android-based application (KIAT Kamera), Microsoft Access, Microsoft Excel, SMS Gateway, etc.

evaluation meeting/ six-monthly evaluation meeting), date, number of participants (aggregated based on gender), and a snapshot.

- Record attendance of service user groups (community members) or *Kelompok Pengguna Layanan (KPL)* or others' presence in KIAT Guru meetings
- Upload documents used or produced during KIAT Guru meetings (e.g.: minutes, attendance list, etc.)

b) KIAT Layanan:

- Provide a drop-down list of Service Agreement indicators. For Group A, this list will be available for school stakeholders. For Group B, this list will only be available for district government, and lock for Group B.
- Allow users to retrieve guideline/instruction page on workflow, schedules/calender, Service Agreement indicators, evaluation results.
- Allow users to print information (instruction) and results (list of service agreement indicators).
- Allow administrators to revise/correct service agreement and information on teacher presence/absence (time of arrival at and leave from schools, etc.)
- Allow local-level inputs for the Teacher Score Card specifications and weights (e-FLG/ *Formulir Layanan Guru elektronik*).

c) KIAT Kamera:

- Capture and recapitulate daily teacher presence, based on teacher self-photos.
- Digitize daily teacher presence form (e-DHG/ *Daftar Hadir Guru elektronik*), by either: i) simply scan the documents and submit for manual evaluation; or preferably by ii) convert images to texts, enabling digitalization of recapitulation process.
- Capture the GIS coordinate (school location).

d) KIAT Nilai Sekolah:

- Provide monthly recapitulation of teacher presence (KIAT Kamera and e-DHG) and teacher performance evaluation (e-FLG).
- Digitize verified teacher presence (e-FPKG/ *Formulir Pencocokan Kehadiran Guru elektronik*) by either the User Committee or School Committee.
- Digitize sign off processing by principal, Village Head, and Head of User Committee or School Committee.
- Provide prognosis for TKG-recipient teachers on TKG amount that will be received in a month based on the e-FPKG.
- Allow printing features

e) KIAT Nilai Kabupaten:

- Synchronize with teacher databases and other relevant external systems (e.g. SIMTUN, SKTK, etc.), to digitize teachers with SKTK (Special Allowance Stipulation Letter) status, register mutations and promotions that occurred that may amend the monthly salary amount.
- Allow schools to check and update teacher data/school database.
- Automatically calculate weekly, monthly, quarterly, and annual verified teacher presence (e-FPKG) and teacher performance evaluation (e-FLG).
- Using an agreed formula, calculate the amount of TKG to be paid based on e-FPKG.
- Automate TKG payment administration (in preparing/ uploading SPP, SPM, SP2D documents).
- Notify teachers via SMS on payment transfer.

f) KIAT Hasil (Diagnostic SLA):

- Adaptive computer-/mobile phone-based testing for students.
- Bahasa Indonesia and Mathematics student rapid test/item bank development is prerequisite to the development of this feature.
- Items can be revised by administrators (MoEC/district education office/teachers), which derive from large pool of item bank.
- Item analysis tool is available for items developer for item bank development.
- Tests are to be administered by Village Cadres and User Committee, or School Committee, also tapping onto KIAT Kamera features for test administration evidence.
- Student individual results are to be automatically calculated by end of testing process, and archived in database for further analysis.

g) Complaint Handling and Redress Mechanism (CHRM):

- To be used by all stakeholders: teachers, parents, community members at village level, *Dinas Pendidikan* and MoEC to post all concerns about teacher presence, service indicator achievements, TKG payment and KIAT project implementation process, etc.
- Complaints will be grouped based on categories and people/positions are to be identified to the owner of each different type of complaints.
- Track the process from complaint submission and the handling/completion. Standard key milestones and timeframes for each complaint to facilitate tracking.
- Based on further consultation with stakeholders, CHRM platform may be part of this KIAT App and MIS, or KIAT Guru program is to use existing government's complaint handling mechanism (e.g. LAPOR).

h) KIAT Pengetahuan/Knowledge Hub:

- The knowledge hub will serve as a 'hub' or portal for all KIAT App and MIS data, providing access for public users to view and read general information on KIAT Guru, as well as a log in sidebar for KIAT Guru key users and administrators.
- Online platform (ideally available as well offline in the mobile phone) that make available all relevant guidelines, infographics, and short videos.
- Capture Frequently Asked Questions from the CHRM.
- Embed collaborative features for knowledge sharing or productivity (e.g.: Google Drive, chats, discussion thread, generating news/articles on good practices, etc.)
- Allow users to print information, articles, and documents.

While emphasis is on timely development for timely usage of the App and MIS, in case of time restriction, the development of KIAT App and MIS optionally can be divided in two stages:
Stage 1: a) KIAT Admin Rapat; b) KIAT Layanan; c) KIAT Kamera; and d) KIAT Nilai Sekolah; dan e) KIAT Nilai Kabupaten **by April 2019.**
Stage 2: f) KIAT Hasil; g) CHRM; and h) Knowledge Hub **by July 2019.**

6) Identification and detail description of users and level of access. The roles of the users will be determined during consultations with stakeholders, which may include although not limited to:
   - System Administrators at MoEC and district governments
   - Operators in schools
   - Executive/decision makers in district governments – including Dinas (Head of Dinas, and Head of Teacher and Education Personnel Division, School supervisors
   - Executive/decision makers in MoEC (DG of DGTEP and appointed staff)
   - School principals

- Teachers
- Heads of Villages
- Community Facilitators
- Village Cadres
- School Committees
- User Committees
- General users/public users

7) Present various access to different types of information to different level of users, e.g.: executive dashboards to be used teachers, community leaders, district Dinas and MoEC for decision making to general information on KIAT Guru program for public viewers. These includes various reports and search facilities – at teachers and schools level and aggregated at community, dinas and MoEC levels – to enable assessment of status of reported attendance, achievements of teacher service indicators, as well as TKG payment process. See table 2 below:

Table 2. Access to Information

Stakeholders/ users	Possible Access to Information	Period	Types of information
General users (public)	General information about KIAT Guru project (principles, objectives, umbrella regulations, information on stakeholders, etc.) and current status of implementation	Updated quarterly	Texts, images and graphs
Teachers	Individual recapitulation of attendance and service indicators achievement	Monthly, quarterly, and annual	Tables and graphs
Schools	Schools' positions in the performance quintiles of all schools in the district	Quarterly and annual	Tables or graphs
Community	Performance of teachers and cohorts of schools within the community	Monthly, quarterly, and annual	Tables and graphs
Dinas	• Performance of teachers and cohorts of schools within the districts • Disbursement against the planned allocated budget	Monthly, quarterly, and annual	Tables and graphs
MoEC	• Performance of teachers, schools and districts based on teacher presence and service indicators • Disbursement against the planned allocated budget	Monthly, quarterly, and annual	Tables and graphs

8) Be hosted at scalable hosting environment, therefore should avoid over-reliance on operators' archive at local laptops or storage devices. (Note: Hosting arrangement will need to be discussed during consultation process.)
9) Where possible, KIAT App could also cater knowledge hub facility for different stakeholders to connect and share insights.
10) Integrate with social media/networks (e.g.: Facebook, Twitter, Whatsapp) allowing data feeds into the social media and vice versa.
11) As further consideration, the App should be accessible for further development using crowd-sourcing for sustainability.

Within the scope of the system, some system design considerations to be taken into account include:

1) The design of the KIAT App should be focused, clean, and simple. This will be achieved by:

   - Guiding the user's eye through the use of few, well-chosen visual elements;
   - Minimizing the use of text, particularly on landing pages and user-specific home pages;
   - Eliminating all visual design elements, unless they can be demonstrated to serve a clear and important functional purpose;
   - Defining visually a clear primary goal and purpose for each target group of users, based on the defined roles;
   - Ensuring that all hyperlinks within text are clearly differentiated from normal text;
   - Avoiding wasted space, particularly unnecessary spacing between elements and overly large headers/footers;
   - Facilitating navigation around the system by using a 'breadcrumb navigation bar on all pages that allows users to locate exactly where they are and the path that has been followed to get there.

2) The system will be a database-driven website (dynamic). During technical design, open standards will be identified to underpin the construction and/or use of any database systems. The overall system will be designed to adhere to World Wide Web Consortium (W3C) standards, in order to ensure that the completed system can be displayed on Microsoft, Mozilla Firefox, and Google Chrome web browsers, using any device. To accommodate a broad spectrum of users, the design of the Portal will allow for users with a maximum screen resolution of 1024 x 860. The system should seek to conform to the World Wide Web Consortium guidelines for accessibility. Further information on these guidelines is located at http://www.w3.org/WAI/.

3) Some users of the system are expected to be accessing it using poor quality Internet connections. This needs to be taken into account during the design of every aspect of the online experience, both by eliminating all unnecessary visual and graphic elements during design and by ensuring that interactive elements of the site use lightweight coding solutions.

D. KIAT App and MIS Development Stages

Considering the diversity of stakeholders in their needs as well as limited timeline for development, iterative and incremental development approach is to be used. Rather than using the waterfall approach, an iterative model will be more suited for the app and system development. Proposed model can be adapted from Fairley's incremental-build model[4] as shown in the flow diagram below (see Figure 2). Three proposed steps KIAT App and SIM are to be developed through four key steps: i) design process; ii) building of key feature set 1; and iii) building of key feature set 2.Each step entails collaborative efforts, verification, validation and refinements of the feature sets, based on inputs of the users.

[4] Fairley, R. E. 2005. *Iterative Rework: The good, the bad, the ugly. Retrieved from: https://www.researchgate.net/publication/2956384_Iterative_rework_The_good_the_bad_and_the_ugly*

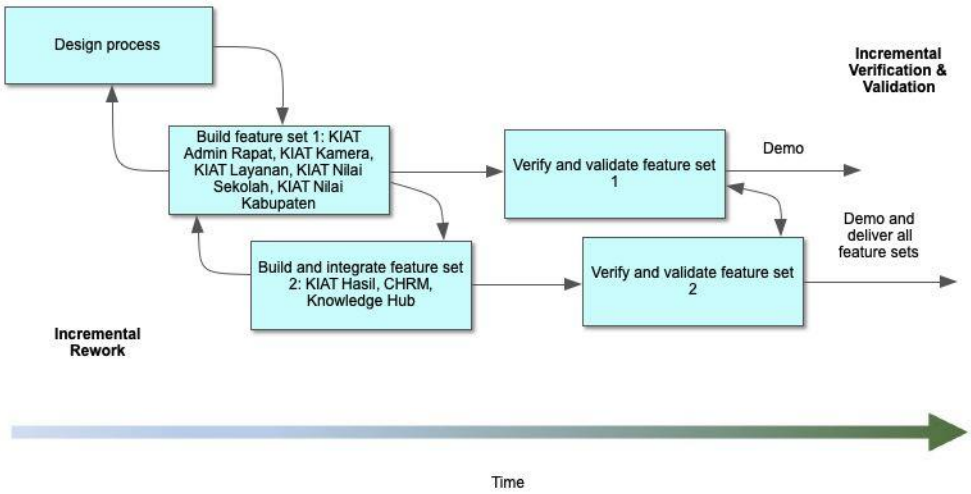


Figure 1. KIAT App and MIS Development Incremental-Build Process

KIAT Hasil feature development may or may not be a separate process, considering rigorous test development process (i.e.: item bank) prerequisite to the feature.

E. Scope of Work

For this work to progress successfully, the third-party implementer/service provider company should be able to provide the following support:

1) *Business Analysis*. This includes:
   a) Analysis of KIAT App and MIS design (s) document prepared by KIAT Guru implementation team. This design document mainly focuses on business process entailed in KIAT Guru program implementation;
   b) Improvement of KIAT App and MIS design document(s) for further system development and prepare a detailed specification of the following:
      i) Identification of technologies to be used to develop web-based and mobile apps.
      ii) Description of a suitable, scalable hosting environment.
      iii) Identification of data architecture, required databases, and definition of an appropriate data standard to enable real-time data sharing and updating between DAPODIK, and other local government databases.
      iv) Complete list of all users, accompanied by description of permissions and roles of each class of users.
      v) Taken into account the KIAT App and MIS and detailed descriptions of the functionality of each feature, prepare mock-up screen shots illustrating proposed layout of pages within modules.
      vi) Full description of proposed process flows for every transaction to be undertaken within KIAT App and MIS, outlining clearly sequence of activities from first step to conclusion of the transaction.
      vii) Description of Security Requirements of KIAT App and MIS.
      viii) Disaster Recovery overview for the KIAT App and MIS.

2) *System Development*. Based on the above Specification Document, complete technical development of the web-based and mobile apps. It would be expected that this software development process will go through a normal software development cycle, which would include:
   a) Design and initial development.
   b) Coding and development of implementation documentation.
   c) Completion of detailed internal testing and integration (both manual and automated), to check for checks for errors, bugs, and interoperability of systems.
   d) Client-side evaluation, by Dinas stakeholders and MoEC, and system revision based on feedback.
   e) Pilot user testing and further system revision based on feedback.
   f) Soft launch and further revision.
   g) System finalization and sign-off.
   h) System release and handover of code to MoEC and share as an open source codes for further app development.
   i) Finalization of all systems documentation and handover to district governments and MoEC.

3) *Implementation Planning*. Implementation of KGP2 will be managed by Yayasan BaKTI, who will also lead the overall coordination on implementation of the KIAT App & MIS. Both BaKTI and the third-party implementer/service provider company will work together to:
   a) Liaise with district governments and MoEC to develop a suitable formal regulation or equivalent that will govern deployment and use of KIAT App and MIS.
   b) Conduct coordination of consultation processes to ensure that definition of all aspects of Business Analysis process above takes into account inputs from all key players within MoEC and district governments.
   c) Support district governments and MoEC in undertaking advocacy activities (particularly for utilization in participating schools but may need to include engagement with the Ministry of Village as well as Ministry of Home Affairs) to ensure that there is strong ownership and commitment to use of KIAT App and MIS.
   d) Develop of a phased implementation plan that enables promotion of the system and provision of support at school, community, and district and MoEC/national level to take place.

4) *Implementation*. Upon completion of the KIAT App and MIS development, implementation activities include:
   a) Development of Admin and User Guide to be used in trainings for administrators, operators and users.
   b) Capacity building activity design, including modules for training, training of trainers, and support for trainers during capacity building implementation.
   c) System maintenance and troubleshooting.
   d) Provision of technical support for administrators, operators and users – as well as coaching for system maintenance and troubleshooting.

F. Deliverables

KIAT App and MIS developer is expected to generate outputs as listed in Table 3 below.

Table 3. List of Deliverables

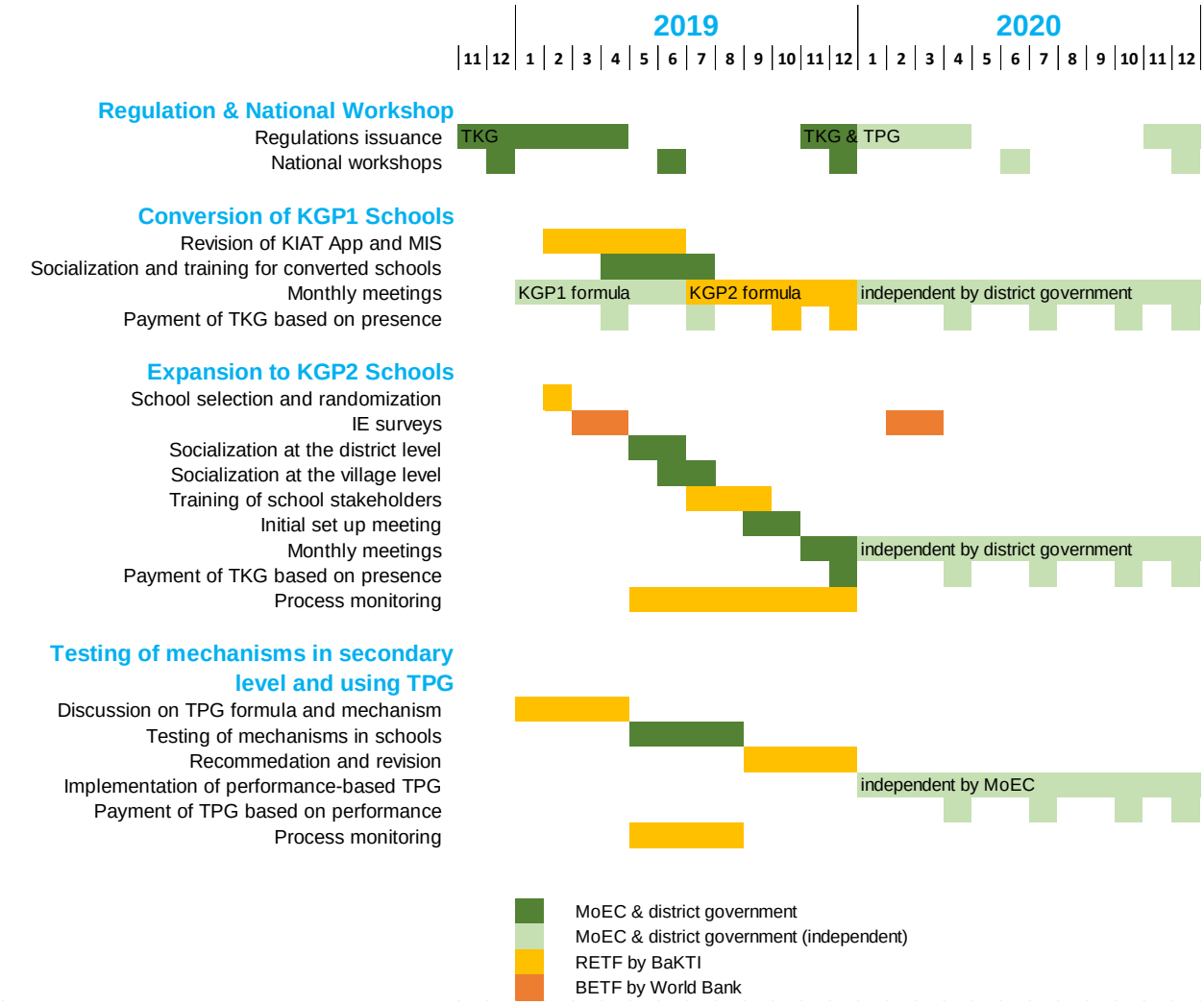
Items	Description (of forms/formats)
1) Planning documents, including: • Analysis and inputs into KIAT App and MIS design documents; • Improved design documents • Recommendations on procurement of relevant hardware and software • Recommendations on hosting requirements	Soft-files (ppt, word and pdf document formats) Email communications
2) Documentation of process: bi-weekly progress report on the development to notify KIAT Guru Implementer team	Word documents and email communications
3) Well running App and MIS, tested, refined and launched;	Android mobile app and web-based software
4) Administrator and user manuals;	Soft-files (ppt, word and pdf document formats)
5) Design of modules/materials for administrators and users training;	Soft-files (ppt, word and pdf document formats)
6) Handover manual from KIAT Guru implementer team to GoI;	Soft-files (ppt, word and pdf document formats)
7) Source codes (as open source codes, ready for further development beyond KIAT Guru program phases)	• Source code files in external hard drive • Optional (to be discussed): packaged source codes ready to be migrated/mirrored onto designated URL
8) Monthly report on maintenance and trouble shooting	Online documentation (log entries) and summary in word document

G. Timeline and Institutional Arrangement

1) Timeline.

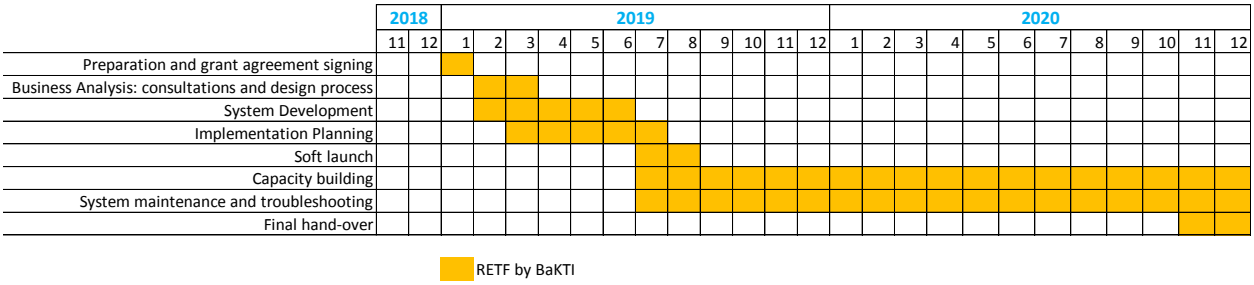
The overall KGP2 activities will be carried out within the course of 2019. Figure 2 and 3 below provides overview of KGP2 timeline and institutional arrangement of the activities, to be carried out by MoEC, district government, BaKTI as the recipient of Recipient Executed Trust Fund (RETF), and the World Bank, making use of the Bank Executed Trust Fund (BETF). The division of roles and responsibilities is discussed in Table 3 below.

Figure 2. KGP2 Timeline



Within KGP2 timeframe, KIAT App and MIS development activities are to be carried out within this timeline in Figure 3 below.

Figure 3. KIAT App and System Development



2) Roles and Responsibilities of Stakeholders

Table 4. Roles and Responsibilities

	MoEC	Local/ district government	Village government	Schools	BaKTI & System developers
Regulations	Preparation and issuance of regulations at national level	Preparation and issuance of regulations at district level	Preparation and issuance of regulations at village level	Appointing school operators/ technical person	
Activity implementation	• Conduct national workshops • Provide linkage of KIAT App and MIS with DAPODIK • Conduct payment of TKG with teacher presence for non-PNS teachers	• Socialization at district level • Conduct training events • Conduct verification meetings to recapitulate reports from schools • Conduct payment of TKG with teacher presence for PNSD teachers • Conduct monitoring and supervision visits	• Socialization at village level (for Group A) • Hold monthly meetings (for Group A)	• Device (smart phone) procurement • Socialization at school level (for Group B) • Hold monthly meetings (for Group B)	• System development and routine trouble shooting • Technical assistance for MoEC and district governments • Capacity building trainings for school stakeholders • Conduct process monitoring and spot checks
Monitoring and evaluation	Conduct monitoring and evaluation	School supervisor visits Conduct spot check			

H. Required Expertise and Minimum Team Composition

1) *Required expertise.* The following criteria are the success factor of firm selection:
   - Proven experience in online systems development with a strong portfolio profile within the last 5 years, preferably in mobile app development.
   - Having expertise and hands-on experience with Web Applications and programming languages such as HTML, CSS, JavaScript, JQuery, PHP Framework, CMS code for joomla & API's.
   - Having expertise and hands-on experience with database such as MySQL/Postgres
   - Skillful in creating visually appealing sites that feature user-friendly design and clear navigation.
   - Competent in developing training manual.
   - Having experience to develop training module and conduct the training.
   - Excellent understanding and exposure to Government of Indonesia governance system – both at National and local government levels
   - Sufficient understanding and exposure to Indonesia's education system
   - Have previously worked for/with Government of Indonesia institutions, preferably with Ministry of Education
   - The team shows very strong attention to detail.

2) *Minimum Team Composition.* To carry out this work, a firm with expertise in online systems development is needed with following composition:
   - Project Manager/Team Coordinator. The person will need to coordinate the workflow and connects KIAT Guru implementation team with the system development team. He/she will serve as the key contact person.
   - Requirement analyst. He/she will provide inputs and improve the design/business analysis documents prepared by KIAT Guru implementation team. He/she will also analyse, analyse, document, and communicate technical requirements to KIAT Guru implementation team and to other team members. The person will develop required documentation.
   - Designer(s) (UI/UX). The work includes drawing graphics (e.g.: among others are for menus, navigation, buttons and backgrounds) to meet user experience. The outputs must be usable and meet modern trends.
   - Web developer(s). The work of web developer(s) include front-end developers and back-end developers to ensure the web app is performing well.
   - Programmers. These programmers include i) Android/IOS programmers, and ii) web-based programmers.
   - System tester(s) and integrator(s). He/she will integrate different features and elements/modules for it to run smoothly. For this purpose, he/she will be required to run tests of the app and the MIS, collect information on user experience and inform other team members for further iterations or refinements.
   - Trainer(s). He/she will develop training module(s) based on the need analysis results and the objectives to be achieved. He/she will conduct training to potential administrators and users.

These different roles maybe combined when deemed appropriate, however these minimum roles and skills requirements need to be present. When required, these roles and further skills can be added by the firm to further enhance team performance. CVs are required as annex to the proposal.

Potential firm candidates will be shortlisted and will be required to present possible solutions to KIAT Guru implementation team.

I. Coordination and Reporting

1) *Coordination.* The selected firm will need to work closely with KIAT Guru Implementation team during the KIAT Guru App and MIS development, release, use and maintenance, as well as in provision support for system handover. Biweekly meeting will be carried out and more frequent meeting will be held when needed.

2) *Reporting.* The selected firm will report to BaKTI as the third-party implementer as well as to KIAT Guru team leader. Through the role of Project Manager/Team Coordinator, the firm will need to work on day-to-day basis with World Bank ICT in Education Specialist and KIAT Guru Implementation team. All reports are to submitted in soft files (e.g.: email correspondence, ppt, word document, pdf formats, etc.).

J. Selection Process

BaKTI will invite companies/institution to develop online application and MIS KIAT Guru recipient:

There will be three steps of the selection:

a. March 5, 2019: Release of Final ToR
b. 5 – 11 March, 2019 : Expression of interest
c. March 12, 2019, at 2:00 p.m: Presentation about KIAT Guru. Interested institutions / companies / individuals please attend this presentation. Confirmation of attendance no later than March 11, 2019, 12 WIB to febriyana@tnp2k.go.id Cc tri.rinawati@tnp2k.go.id. We will inform the detail venue when your confirmation.
d. 13 – 19 March 2019: Submit institutional proposals & profiles in softcopy via email to info@bakti.or.id Cc tri.rinawati@tnp2k.go.id with the subject email "Proposal KIAT App & MIS"
e. 20 – 22 March, 2019: Assessment Process by panellists from KIAT Guru TNP2K/Yayasan BaKTI
f. March 23, 2019: Contract negotiations
g. March 25, 2019: Announcement of selected service provider company
h. March 26, 2019: Contract Signing