

MONTHLY REPORT ON ONGOING KWA PROJECTS – FEBRUARY, 2021.
(Prepared by EE, Internal Audit, KWA - based on details available in PASK)

Kerala water authority has taken up water supply projects under various heads ie., JJM, state plan, NABARD, KIIFB, RKI, AMRUT, NRDWP and JNNURM. Data available about these projects in PASK is analysed and the following points are noted.

1. An abstract of KWA Projects as on 16.02.21, based on the PASK data is as follows.

S No.	Category	Number of Projects			Number of packages
		Total	Completed	Ongoing	
1	KIIFB	135	25	110	259
2	AMRUTH	101	37	64	287
3	State Plan	2315	1294	935	1453
4	NABARD	39	17	18	97
5	RKI	8	0	8	11
6	JJM	893	78	814	783
7	Deposit Works	1270	801	468	753
8	Other Works	412	246	162	363
9	JNNURM	6	5	1	50
	Total	5179	2503	2580	4056

The balance projects which are neither completed nor ongoing will be either dropped or short-closed. Most of the completed projects are not independent water supply schemes, but extensions. Hence list of completed project can be separately analysed by operations wing to update the data related to existing schemes, after individual scrutiny. Dropped projects and short-closed projects need to be kept separately for analysis and finding out useful inferences at a later stage. Instead of keeping a single database containing dropped, completed short-closed and ongoing projects, as we need to put more on ongoing projects with high, significant and medium risks, it may be advantageous to arrange the projects in the following pattern.

S No.	Category	Completed	In Planning stage	Number of Projects										
				Ongoing										
				Minor Projects (<Rs. 1 Crore)			Major Projects (>Rs. 1 Crore)							
							Targeted for completion in 2020-21			Targeted for completion in 2021-22				
				Total	With Risk		Total	With Risk			Total	With Risk		
				High	Significant	medium		High	significant	medium				
1	KIIFB													
2	AMRUTH													
3	State Plan													
4	NABARD													
5	RKI													
6	JJM													
7	Deposit Works													
8	Other Works													
9	JNNURM													
	Total	2503		1610										873 (roughly)



2. One of the main reasons for delay of KWA projects is found to be low priority given for Project Planning. Once AS is issued for a project, it is viewed as ongoing project. Though project planning time is not officially allotted for new projects, focus is given for monitoring project progress immediately, without giving sufficient importance to the risks which may affect contractual agreement. (Land acquisitions needed prior to tendering, fund flow confirmation from finance wing of KWA). Time needed for site survey, soil investigation, structural design, prior to tendering is also most of the time neglected or given less importance. Proper Project Implementation Schedule showing the time when the projects need to start approaching other departments for permissions, approved time for starting tendering procedures and the officials who are responsible for the same as per delegated powers is not officially prepared and approved (and kept as an official record for reference) before starting implementation. Hence, when officials change due to promotions or transfers, project continuity is lost and it takes much time for the new personnel to be in track.

It is appropriate to provide an approved time for planning stage of each project where land acquisition, soil investigation, detailed design etc can be completed prior to the entry to contractual agreement. Initiating actions for permissions needed from other departments during planning stage can help in obtaining these permissions at the right time during implementation stage and to reduce time and cost overrun.

For all projects for which, AS is issued, a Project Planning Period is to be assigned/approved and such projects can be categorised as Projects under planning stage. A few standard formats for Project Implementation Schedule can be prepared for water supply Projects with all kinds of components, land acquisition needs and all kinds of permissions needed from other departments but differing in capacities of treatment plants and or or service reservoirs. Utilising this standard format, Project Implementation schedule can be prepared by the TS issuing authority and got approved by of AS issuing Authority. Duration of planning time needed will be a part of this schedule and progress monitoring can be done based on this approved schedule. The activities to be done after finishing the works as per contract, trial run and commissioning of scheme, issuing completion certificate, collection of utilisation certificates for road restoration from PWD etc, handing over the scheme to the operation and maintenance Division etc can be viewed as Project completion stage. All Revised estimate needs of the Projects are to be sanctioned and completion of the project is to be ensured before this completion period is over. The following Activities can be done in the planning stage

- a. Project Implementation schedule can be prepared by TS issuing authority (support of AEE in the office of the CE or PA to SE etc) and got approved by the AS issuing authority / the head office if AS is from the Government (necessary entry shall be made in PASK also). If it is a deposit work or AS is issued from the Government, the office where the AS from outside KWA is received may approve and put the approved Project implementation schedule in PASK. It shall show time when the projects need to start approaching other departments for permissions, approved time for starting tendering procedures and the officials who are responsible for the same as per delegation of powers.



Sample Project Implemetation Schedule											
(To be prepared during the time of issue of TS)											
Sl No	Month	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21
Project Planning Stage	Responsible official	Plannngg Stage			Implemtation stage						Completion
	land Acquisition joint inspection	SE									
	Site survey 3 Tanksites and WTP site	AE 1 Proj Div									
	Soil investigation 3 tank sites	AE 1 Proj Div									
	Structural Design OHSR 1		AEE 1 PPD								
	Structural Design OHSR 2		AEE 2 PPD								
	Structural Design OHSR 3		AEE 3 PPD								
	Railway Permission for Transmission Main		SE								
	PWD permission for Distribulsiion Zone 1		EE Proj								
	Tender Document Package 1 WTP		AE 1 Project								
	Tender Document Package 2 OHSR		AE 2 Project								
	Tender Document Package 3 GLSR		AE 3 Project								
	Implementation stage	tender publicity time Pacakge 1			SE						
tender publicity time Pacakge 2				SE							
tender publicity time Pacakge 3				SE							
Tender finalisation time Package 1					CE						
Tender finalisation time Package 2											
Tender finalisation time Package 3											
Implementation Package 1						EE AEE					
Implementation Package 2											
Implementation Package 3											
Recording and bill preparation Package 1						AE1					
Recording and bill preparation Package 2					AE2						
Recording and bill preparation Package 2					AE 2						
Sanctioning RE							SE	SE	SE		
Project Completion Stage	trial run and commissioning										EE
	Sanctioning all Revised Estimates										SE
	Final bill payment and closing packages										EE
	Utilisation certificate from PWD/Corporation										EE
	Completion Certificate										SE
hanading over to Operations Division										EE	
Purpose of Project Implementation schedule											
1. Avoid missing major risk factors at the planning and early stage of implementation (to avoid dead investment when we identify the risk at later s											
2. When a new official is posted in a position, he will be clear about his responsibilities at the particular point of time											

- b. Land acquisition can be completed in planning stage if sufficient time is allotted for it. Details (survey number and non-encumbrance certificate and other details) of the proposed land to be submitted to revenue department with intimation to the special officer Land Matters, KWA for speed up the issue of GO, Joint inspection, social impact study, preliminary notification, valuation, approval of valuation by SLEC chaired by Chief Secretary etc. These can be completed before entering into contractual agreement, if sufficiently scheduled these needs and monitored.
- c. Site survey, soil investigation, structural Design, preparation of tender documents etc. are to be completed in planning stage.
- d. Approaching other departments for permission, road restoration estimate etc can be initiated, joint inspections and assessment of amounts for the same finalised. If it seems as a major risk, informed decision for stopping further expenditure on affected packages can be made earlier.
- e. Project Risk Identification to be done in planning stage. All possible risks that may come across during the project implementation shall be identified and preventive measures planned during planning stage itself. (details follows)



3. Another main reason for delay of KWA projects is found to be less importance given to identification of Project Risk and timely Project Risk Management. For this purpose, project risks are categorised for water supply projects and presented as follows

Project Risks Identified for KWA Projects which cause time and cost overrun

Sl. No.	Code	Risk Category
1	SAR	Source Adequacy Related Risk
2	HFR	Hydraulic feasibility Related Risk
3	LAR	Land Acquisition Related Risk
4	RWR	Railway Permission and assessment of payment amount
5	NHAIR	NHAI permission and assessment of payment amount
6	KSTPR	KSTP permission and assessment of payment amount
7	PWDR	PWD permission and assessment of payment amount
8	CORP R	Corporation permission and assessment of payment amount
9	PANCH R	Panchayat permission and assessment of payment amount
10	KSEBR	KSEB Connection Related Risk
11	CAR	Contractual Agreement Related Risk
12	LR	Legal Risk
13	LPR	Local Protest and Related Risks
14	EPR	Environmental Pollution and Related Risk
15	FAR	Fund Availability and related Risk
16	OR	Organisational Risk
17	ITR	IT Related Risk
18	PR	Political Risk
19	SR	Social Risk

All project risks KWA face in implementing water supply project will fall into any one of the above categories. Hence if we keep a check list of the above for each project, Project Risk Management would be made simpler for higher authorities.

4. Project Risk Analysis can be done only with the help of PASK. But before that, the data in PASK is to be made accurate.



Number of projects seen in PASK are not matching with official data. Based on the details available in PASK as on 22nd February, 2021, Total number of KWA projects is 5224. This contains completed (2543), dropped (86), short closed (11) and ongoing projects (2584). Out of the 2584 ongoing projects, AS amount is available in PASK only for 2482 projects. Out of this 2482, 1610 schemes have AS amount less than Rs. 1 Crore and 873 schemes have AS amount above Rs. 1 Crore. (AS amounts seen on PASK varies from Rs 2 to Rs 4343 crores. These need correction).

PASK data entries are done by field engineers. Mostly AEs are submitting data to PASK and is practically difficult to verify even by their immediate superior officers because of the bulk data of 5000 plus projects seen in their dashboard.

Hence a change in PASK is suggested such that 'My dashboard' and 'My projects' shall contain only those projects for which the one who is logged in is responsible. The dashboard now seen and the suggested change is show below.

Present lists seen in home page	Changes proposed
Dashboard	Dashboard
My Projects	My Projects may be divided as follows:
Main-Project List	My Major Projects (AS > Rs.1 Crore)
Package List	My Major Project Packages
Manage Issue Category	My Minor Projects (AS < Rs.1 Crore)
Project Category Management	My Minor Project Packages
Project Status Management	Project Risk Management
Reports	My Major Project - Risks
Manage Funding Agency	My minor Project - Risks
	Reports

Official communication may be given to PASK Maintenance team of Origami to make this change in dashboard. Also, all officers including the DCE PIU, EE, and AEE in charge of Project coordination shall be given the details of their responsible ongoing projects only in their dashboard. For doing this, a co-ordinated effort from the head office is needed, since category names are not correctly seen in the project data in PASK. Data editing facility may be given for AEEs in PIU Jalabhavan also for correcting the errors which are mentioned below. During this time, editing facility can be temporarily locked for field engineers for adding new projects, AS amounts, category, and packages. Editing facility for submitting the status details can be kept open for field engineers always. After submitting AS amount, category and packages of all projects as per official record of this office, DCE PIU and CE Projects may verify the authenticity of the list of ongoing projects, their AS amounts, packages sanctioned, and the category. Then these fields and list can be locked and kept editable only by CE Projects. Unless a deviation is sanctioned by TM, or a project is decided to be dropped or short-closed or a new AS is issued by the Govt, this list and fields should not be edited. But adding new projects under the category of



deposit work can be kept open as editable by the field Superintending Engineers and Executive Engineers.

- It may also be seen that Project Category in PASK is also differently submitted to PASK from different offices.

Category and Funding agency combinations seen in PASK- To be corrected			
Project Code	Category	Executing Office	Funding Agency
ALPAMRUT02172387	AMRUT	Project Division Alapuzha	AMRUT
IDKGOI0302531	ARP Central	Project Division Kattapana	GOI
KTMGOI07134354	ARWSS (50% State share)	Project Division Kottayam	GOI
ALPJJM08205433	Centrally sponsored RWS Scheme	PH. Division Alappuzha	JJM
ALPGOK1013621	Completion of Ongoing Rural WSS	Project Division Alapuzha	GOK
ALPDEPO10205867	CORPUS	PH. Division Alappuzha	DEPO
PTAGOK10204061	CORPUS	P.H. Division, Pathanamthitta	GOK
TVMITDP07195163	CORPUS	HW. Division Aruvikkara	ITDP
TVMDEPO07205287	CSME	HW. Division Aruvikkara	DEPO
ALPDEPO01194203	Deposit Work	PH. Division Alappuzha	DEPO
ALPGOK03191242	Deposit Work	PH. Division Alappuzha	GOK
EKMSMARTCITY01205807	Deposit Work	P.H. Division Kochi	SMARTCITY
KLMDCLAC/ADS/SDF/KSCADC09205385	Deposit Work	Project Division Kollam	DC-LAC/ADS/SDF/KSCADC
MLPDC- LAC 02201695	Deposit Work	P.H. Division Edappal	DC- LAC
WYDITDP06202689	Deposit Work	P.H. Division Sulthan Bathery	ITDP
EKMGOI07192453	DRW	P.H. Division Kochi	GOK
IDKGOI07195353	DRW	P.H. Division Thodupuzha	GOI
IDKGOK12185323	Flood Works	P.H. Division Thodupuzha	GOK
ALPJJM08205514	JJM	Project Division Alapuzha	JJM
ALPGOI08206782	JJM	PH. Division Alappuzha	GOI
KLMGOK08206225	JJM	PH. Division Kottarakara	GOK
EKMKIIFB01191693	KIIFB	P.H. Division Muvattupuzha	KIIFB
TCRGOK08185295	KIIFB	P.H. Division Thrissur	GOK
TCRDEPO08206728	KIIFB	P.H. Division Thrissur	DEPO
ALPKIIFB0619496	KIIFB WATER SUPPLY SCHEME	KIIFB Projects (ALP)	KIIFB
EKMGOI04152609	Minority	P.H. Division Kochi	GOK
MLPDEPO08176124	Minority	P.H. Division Edappal	DEPO
MLPGOK10191865	Minority	P.H. Division Edappal	GOK
ALPDC-LAC/ADS/SDF/KSCADC07204282	MLA ADF	PH. Division Alappuzha	DC-LAC/ADS/SDF/KSCADC
EKMDC- LAC 01181686	MLA ADF	P.H. Division Muvattupuzha	DC- LAC
KLMGOK03201232	MLA ADF	PH. Division Kollam	GOK
TCRGOK09181185	MLA ADF	PH Division Irinjalakkuda	GOK
ALPDEPO11205871	MLA SDF	PH. Division Alappuzha	DEPO
ALPDC-LAC/ADS/SDF/KSCADC01194188	MLA SDF	PH. Division Alappuzha	DC-LAC/ADS/SDF/KSCADC
EKMDC- LAC 06201711	MLA SDF	P.H. Division Muvattupuzha	DC- LAC
KLMGOK11206229	MLA SDF	PH. Division Kottarakara	GOK



KLMDCLAC/ADS/SDF/KSCADC11205825	MLA SDF	PH. Division Kottarakara	DC-LAC/ ADS/ SDF/ KSCADC
KTMGOK07204964	MLA SDF	PHD Kaduthuruthy	GOK
PTAVISL01201218	MLA SDF	P.H. Division,Pathanamthitta	VISL
EKMDC-LAC/ADS/SDF/KSCADC12206841	MPLADS	P.H. Division,Aluva	DC-LAC/ADS/ SDF /KSCADC
ALPGOK02193679	MPLADS	P.H. Division, Thiruvalla	GOK
TCRGOI01211174	MPLADS	PH. Division Irinjalakkuda	GOI
WYDITDP02202694	MPLADS	P.H. Division Sulthan Bathery	ITDP
KNRNABARD12173151	NABARD	Project Division Kannur	NABARD
ALPGOK0314491	NRDWP-XVSLSSC	Project Division Alapuzha	GOK
KTMGOI07134365	NRDWP-XVSLSSC	Project Division Kottayam	GOI
KLMKIIFB0618467	Plan plus central	Project Division Kollam	KIIFB
TVMJNNURM09075858	Plan plus central	JNNURM TVM	JNNURM
TCRJJM09203818	Plan plus central	PH. Division Irinjalakkuda	JJM
EKMDEPO02192731	PWD Deposit	P.H. Division, Aluva	DEPO
ALPGOK11206254	PWD Deposit	P.H. Division, Thiruvalla	GOK
EKMRKI03203175	RKI	JnNURM project division (water supply)	RKI
KLMGOK12194202	SCP	PH. Division Kottarakara	GOK
TVMDEPO05181313	SCP	PH. Division Attingal	DEPO
EKMNABARD1116515	SPAN - NABARD	Project Division Piravom (Kattapana)	NABARD
ALPGOK10204966	State plan	PH.Division Alappuzha	GOK
WYDGOI11096433	UIDSSMT	Project Division Kozhikkode (WYD)	GOI

It is suggested to limit the Project Categories to the following alone. Communication may be given from IT unit to Origami, stating that the project category pulldown menu should contain the following 13 options alone.

Sl.No.	Project category	Funding Agency
1	AMRUT	AMRUT
2	ARP	GoK & GoI
3	ARWSS	GoK & GoI
4	Deposit Work	Minority/CORPUS/KSCADC/ MLA ADF/MLA SDF/ MPLADS
5	DRW	Gok
6	JJM	JJM
7	KIIFB	KIIFB
8	NABARD	NABARD
9	NRDWP	GoK & GoI
10	RKI	RKI
11	SPAN	NABARD
12	State Plan	Gok
13	UIDSSMT	GoI



Funding agency field is also same for all categories except for Deposit work. Funding agency name given in the above column should appear in the filed once the Project category is available in the category field, except for project category 'Deposit work'. Option for typing the funding agency can be kept open for Deposit works alone. Suitable directions in this regard can be given to the PASK maintenance team of Origami.

The project category details already seen in PASK need correction. This can be done only with the help of AEEs in head office who are responsible for each category of projects as per recent work redistribution order. This may be entrusted to the corresponding AEEs in head office and a time limit of 3 to 4 weeks may be given for correcting the scheme related data. It may be noted that as per the organogram seen in KWA's webpage on 16.02.2021, project coordination of each category of schemes is entrusted with specific AEEs in the head office who are well aware of the schemes for which KWA has given AS under each head. The details are shown below.

Abstract of Ongoing Projects in PASK as on 21.02.21					
SI No	Category	Number	Amount	Remarks	Responsible official in HO as per Organogram
1	AMRUT	64	11,02,76,52,00 0		AEE 5
2	ARP Central	8	96,18,00,000		
3	ARWSS (50% State share)	3	59,46,00,000		
4	Centrally sponsored RWS Scheme	5	22,85,60,000		
5	Completion of Ongoing Rural WSS	1	70,00,00,000		
6	CORPUS	9	50,49,000		
7	CSME	1	59,70,000		
8	Deposit Work	452	2,50,77,55,057	missing data	AEE 8
9	DRW	38	1,76,17,995		
10	Flood Works	47	8,39,31,000		
11	Guruvayur Drainage	2	2,15,00,000		
12	JALANIDHI	1	6,79,00,000		AEE 2
13	JICA projects	2	101	wrong	AEE 9
14	JJM	823	1,83,49,31,33,9 47	wrong	AEE 6, 7
15	JJM – Automation	14	36,15,700		
16	KIIFB	110	40,64,23,37,76 5		AEE 4
17	Minority	30	8,32,00,000		AEE 2
18	MLA ADF	73	22,71,25,048		
19	MLA SDF	45	3,71,54,681		
20	MPLADS	10	1,40,38,000		AEE 8



21	NABARD	13	3,74,14,00,000		AEE 3
22	NRDWP- XVSLSSC	9	1,99,55,43,000		AEE 7
23	Other Schemes - Centrally Sponsored	3	19,80,00,000		
24	Plan plus central	4	3,88,66,00,000		
25	PWD Deposit	14	16,81,09,000		
26	RKI	8	1,90,60,00,000		AEE 5
27	SCP	57	7,77,40,001		
28	SPAN – NABARD	5	62,24,61,000		
29	State plan	730	10,65,09,26,04 5	Missing data	AEE 1, 2
30	UIDSSMT	2	73,50,00,000		AEE 3
	Total	2583	2,64,70,47,19,3 41	Not complete	

It may be noted that the AS amounts of projects also need correction. For example, number of KIIFB projects sanctioned is 70. But in PASK, it is seen as 131. This may be because some of the deposit works from other departments may be KIIFB funded and that is wrongly put like KWA's KIIFB project in PASK. Making these data submission systematic will help us to utilise this system more effectively.

Details of projects for which, AS was issued from other offices (deposit works) shall be submitted to PASK from the respective PA to SEs or TA to EEs as the case may be. The Abstract sheet of AS amount and the packages shall also be added to PASK.

6. For each project in PASK, a single date is given for date of agreement, but number of packages are seen varying from 1 to 12. This need correction. Projects for which number of packages are given as 12, details of 12 packages and their corresponding amounts, agreements number, agreement number, date etc to be submitted to PASK. (Their total amount should be tallying with the AS amount of the project, as per the sanctioned DER for new projects. Later when a package is again broken into 2 or 3 for some reason, such decisions taken by SE or EE can be uploaded for substantiating the same. Such details can be accommodated only for major projects having AS amount above Rs. 1 crore for the time being. Even then, original packages and amounts shall be seen in project details page of PASK) If amounts are kept for land acquisition, KSEB connection, PWD permission and restoration, the Government order number for land acquisition, confirmation letter reference number from other departments and date can be submitted instead of agreement number and date. Provision to upload the document can also be provided in PASK.

Initial project provision for packages in the abstract of DER can be saved in the project related data and locked. Provision for uploading the abstract page of DER for which AS is obtained, showing the components and amounts adding to total AS amount shall be provided in PASK. Changes made in later stages can be updated by



field engineers along with provision to upload relevant official document which approves such a change. Details of packages as per latest updates only shall be shown in the package details available in reports as well as my project packages in dashboard. Earlier packages for which offers were not received or splitting or merging was necessitated may be saved in PASK as a separate spread sheet of old packages. The packages which were split for some particular purpose may be coded adding numbers to their original package code so that they can be identified. When such splitting is done, details of original package with code shall be mentioned in the remark column of the new packages so that details of the old package can be referred when needed.

7. It should also be confirmed that all the projects under each category and funding agency, as per the details in head office (except deposit works) is correctly made available in PASK. To update data related to deposit works, PA to SEs or TA to EEs can be entrusted and confirmation done from SE's office and EE's office respectively stating whether all the deposit works under their jurisdiction is completely submitted in PASK.

After completing the list, to avoid corruption of data at a later stage, custodianship of project Related data can be assigned to suitable Engineers in charge, preferably the AEEs responsible for the project in the head office. They can be made responsible for the accuracy of data in PASK by coordinating timely updating of data and uploading all supporting documents from the field offices.

8. Bill submitted and bill payment effected are seen filled for some projects. It is not complete. This data will be available in the Office of the EE and for completing the submission of data on bills to PASK for major projects having AS amount above Rs. 1 Crore, a period of 3 weeks can be allotted. This data may be verified by the officials in the Funds unit in Jalabhavan by checking the official data in files.

Once this data is verified by the finance unit and found correct then this data can be locked. After that, custodianship of the bill related data can be given to the technical assistants in the office of the Executive Engineers so that each time a bill is submitted to the head office for funds, necessary entry can be given in PASK also. While processing new fund requests for projects in funds unit in the head office, confirming whether the bill submission has been submitted to PASK is to be verified by the officials processing the file and noted in the official file/DDFS file. This should be made mandatory to receive funds from head office by issuing necessary circulars from this office so that the data can be made updated from time to time.

9. Project Risks linked to each project which is causing delay in project is not systematically included in PASK. Data available in PASK is not complete for making high level decisions.



A provision to submit Project Risk details shall be provided for each project. To avoid major risks remaining unnoticed for long at higher levels, all the 13 numbers of risks may be given for each project so that the field engineer can check yes /no for each category. No can be given as default option. If yes option is opened, provision to upload relevant document can be given. The document can be a letter from railway which clearly states the project risk or a court judgement or a letter form other departments which clearly describes the corresponding risk. Initially, a provision can be given to upload 3 or 4 files related to each risk.

After identifying the risks, categorising of risks need to be done. It is necessary because unmanaged risk will produce cost and schedule overrun, performance shortfall and loss of reputation. Categorising the risks and assessing its potential consequences can be analysed.

For this purpose, for each project, the causes, consequences and possible solutions for each identified risk shall be tabulated as follows. A provision to submit this Project Risk Analysis (Qualitative) shall be provided for each project in PASK. Provision to suggest possible solution can be kept open for the EEs and SEs in the field as well as for AEEs/EEs/DCEs of PIU.

Project Risks Analysis - cause, consequence and possible solution

Sl. No .	Code	Risk Category	Situations causing the Risk	Consequence	Possible Solutions
1	SAR	Source Adequacy Related Risk	1.Wier construction pending with Irrigation Department 2. Source being dried up in drought season without und or weir	Project expenditure remains as dead investment	Source adequacy should be confirmed and concurrence obtained from related other department prior to KWA's commitment for payment for the project
2	HFR	Hydraulic feasibility Related Risk	Site proposed for service reservoirs, oral permissions given for land availability relocated because of non-availability of the chosen land at later stage 2. route changed due to railway permission	Availability of another land at the vicinity, nearly in the same reduced level may be difficult and hence water distribution to some of the proposed project area will be impossible without further investment	Allot sufficient time officially to redesign and stopping further investment on the affected components of the project. Suitable decisions at high level shall be taken for the same in time and procedures prepared for it.



3	LAR	Land Acquisition Related Risk	procedural delay in land acquisition, procedural lapse, proceeding to contractual agreement without completing land acquisition, causing court cases	Project delay and reputation loss to KWA	Allot sufficient project planning time for projects having land acquisition so that issue of GO, Joint inspection, social impact study, preliminary notification, valuation, approval of valuation by SLEC chaired by Chief Secretary etc can be completed before entering into contractual agreement.
4	RWR	Railway Permission and assessment of payment amount	1. Joint inspection delayed 2. Finalisation of Amount delayed 3. permission linked with other payments due to them 4. shortage of fund for effecting the payment 5. Dispute on land ownership and area needed for pipe laying	Causes all investment for works at the tail end to the stretch where permission is pending, will be dead investment from KWA's side	Prepare an Implementation plan for the project during Planning stage with responsibility give to corresponding officials
5	NHAIR	NHAI permission and assessment of payment amount			
6	KSTPR	KSTP permission and assessment of payment amount			
7	PWDR	PWD permission and assessment of payment amount			
8	CORPR	Corporation permission and assessment of payment amount			
9	PANCHR	Panchayat permission and assessment of payment amount			
10	KSEBR	KSEB Connection Related Risk	Electric connections pending for want of remitting balance electric charges to KSEB	Project delay	Set apart a separate fund for Project Risks which can be utilised and pending payments should not affect project progress
11	CAR	Contractual Agreement Related Risk	Delay in Payment and related dispute, permission from other departments affecting the contractual conditions	Project delay and reputation loss to KWA	NIT should contain clauses stating what should be the agreement between KWA and the contractor when permissions from other departments are denied or delayed.



12	LR	Legal Risk	Disputes causing legal interventions and delay	Project delay and reputation loss to KWA	List out the project related Writ Petitions find out the probable outcomes and assess the project risk. Unique solutions to be arrived for each project
13	LPR	Local Protest and Related Risks	Project implementation negatively affecting life of local people	Project delay and reputation loss to KWA	Social impact assessment to be done, other corporate social responsibility related options may be thought of.
14	EPR	Environmental Pollution and Related Risk	pipe lining work related air pollution	local opposition	explore controlled lining technology options and corporate social investment methods
15	FAR	Fund Availability and related Risk	No Funds under the head in which AS received. Pending payments for power connection, road restoration charges	Causes project lag	Pre-closure procedures shall be initiated. Possibility of utilising the components (already constructed) in conjunction with nearby existing schemes or other ongoing projects
16	OR	Organisational Risk	work overload for specific employees	Dissatisfaction , stress and health issues to employees	gain confidence of employees, work rearrangement or office creation
17	ITR	IT Related Risk	Non availability software to make the project documents (DERs, Hydraulic designs, Structural Designs, Project Implementation schedule, Project Risk Management schedule) available to lower level implementing officers	causes non availability of required information for decision making.	find suitable solutions as per timely needs
18	PR	Political Risk	Political priorities may cause change in project scope, location for components, Hydraulic Designs and thus may cause Hydraulic feasibility risks	Non-feasible extensions and damage to existing distribution network	Stick on to project scope, hydraulic design, feasibility
19	SR	Social Risk	risks which affect the well-being of work force and community 1. skill shortage 2. overloaded work schedule	Affects the health and safety of work force and stake holders	1.training 2. work load assessment and planning 3. Corporate social investment ideas to explore.



For the ongoing projects, AEE, PIU Jalabhavan may trace out the risks known to this office from the official files and submit to PASK initially, since major risks might have been reported to this office earlier. Later on, field officials can update the status from the field with sufficient supporting documents. For new projects during planning stage itself, risk identification can be done and submitted to PASK.

The 11 AEEs, in PIU 1,2,3, ad 4 in Jalabhavan, may keep a project Risk Register (as stated earlier) for ongoing projects in their PASK dashboard, project risk Analysis shall be done by them regularly and results may be submitted PIU heads so as to make proactive decisions on dropping, pre closing or crash completing each project as well as timely intervention for permissions. This can be done initially for major projects only and later extended to minor projects also if needed.

A project having at least one dark red coloured column filled is High risk project, project having no dark red coloured columns filled but at least one orange coloured column is filled will be named medium risk project and project having no dark red coloured column and no orange-coloured column filled but at least one yellow coloured column is filled is a low-risk project.

High risks projects which need immediate attention for proactive decision from higher level for temporarily blocking commitment for expenditure, or stopping all works due to lack of funds should be brought to the discussion at higher levels for suitable decisions in time. Also, more attention can be given to projects planned for completion in 2020-21.

Significant risk project also need attention from the top management. That can be timely highlighted to the MD for intervention in the interdepartmental matters for actions that can be initiated at government level for solving the risk in time without causing time and cost overrun for the project.

Medium Risk projects also need attention for the head office. Reminding the CEs SEs and EE for managing low risk items in time or formally addressing the departmental heads of other departments from the head office shall be a proactive concern from project coordinators in the head office too.

Low risk projects shall be regularly monitored to check whether any one of them cross the schedule and enter to high-risk category shall be a concern from the head office.

Variation from initially proposed Gantt chart, quantifying the time cost overruns, assessment of most probable time for tasks and crashing of projects to avoid time and cost overrun etc come under quantitative risk analysis, which can be done as secondary step.

10. Commitment for expenditure made on projects which have low fund flow are inviting legal objections against KWA, @ roughly 400 court cases per year which has damaged the reputation of KWA. No proper methods or procedures to decide on limiting such expenses and prioritising projects based on available funds.

We have the list of prevailing court cases related to projects, in the legal cell of KWA. This list shall be linked to the respective project in PASK. It is needed to do the risk



analysis mentioned earlier. Suggestion from DLO is needed to assess the impact of the case for the project implementation ie, whether insignificant, minor, moderate, major, or catastrophic. This suggestion shall be taken into account while preparing the Project Phase Risk Matrix which have legal risk.

11. Entering into contract without obtaining land handed over to KWA is another reason for delay in project implementation. The reason may be procedural lapse regarding land acquisition, lack of awareness on land acquisition procedure or time needed for land acquisition and pressure from inside and outside KWA which compel us to move for tendering prior to land acquisition. There is no approved methods or procedures to stop expenditure on tail end components if land availability of one component is affected. Hence for all projects that need any kind of land acquisition, Project Risk analysis shall be made compulsory and Project Risk matrix shall be presented before the authority for suitable decisions.

