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LEGAL APPROACH TO UPTURN LIQUIDITY FUNDS CRADLES FROM VARIOUS TAXES & PUBLIC-PRIVATE SECTOR ALLIANCE GLOBALLY WITH A STRATEGIC COST CONTROL BASE FLEXIBLE BUDGET DESIGN AS WELL AS NETWORK BASED ACCOUNTING & FINANCIAL MANAGEMENT MODEL OPERATED BY PROPOSED E- GOVERNANCE BASE DESIRE TRAINED MOBILIZE RESOURCE FOR PUBLIC WORKS SECTOR

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1. Title of the article:

“Legal approach to upturn liquidity funds cradles from various taxes & public-private sector alliance globally with a strategic cost control base flexible budget design as well as network based Accounting & financial management model operated by proposed e-governance base desire trained mobilize resource for public works sector”

2. Introduction :

The present accounting system in the Public Works Department (PWD) of the Government of Uttar Pradesh (GoUP) mainly facilitates book keeping and transactional control over expenditure. Although the system is serving the purpose, it has inherent limitations for producing desired information / data that could be used for efficient, effective and transparent implementation of the projects undertaken by the PWD. It is recommended strengthening of Accounting and Financial Management Systems (FMS) followed by the PWD of GoUP.

It is identified several areas which need to be strengthened to make them more effective and useful. The study has suggested implementation of reforms in the present systems.

The present system fails to produce information required for vital aspects of project implementation and monitoring like:

- ❖ planning of expenditure,
- ❖ the methods of utilization of funds and its cost effectiveness,
- ❖ monitoring implementation of planned expenditure,
- ❖ information needed for comparing alternative strategies and,
- ❖ evaluation of project implementation at various crucial stages.

PWD is required to provide its services to the citizens in an open, transparent and user friendly manner, comply with the e-Governance initiative being implemented by the State Governments.

E-governance is defined as “the application of electronic means in

- (1) The interaction between government and citizens and government and businesses, as well as
- (2) Internal government operations to simplify and improve democratic, government and business aspects of Governance.”

E-governance is a way for UP PWD to use the new technologies to provide people with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in the democratic institutions and processes.

Institutional Strengthening Component of PWD systems and funding procedures related to Financial Accounting System, Budgeting, Costing and applicable systems of e-Governance, Computerization and Training

Among the wide ranging recommendations for Institutional Strengthening measures for UP PWD’s present systems procedures rules and regulations some recommendations are related to reforms in systems procedures in fields of

- A. Funding Process
- B. Public Private sector partnership & Participation
- C. Financial Accounting System
- D. Budgeting System
- E. Costing System
- F. Management Information System related to above three components

3. A brief review of the work already done in the field: Present status

Present status of PWD working and procedures

3.1 Road Funds – A Background

➤ Introduction

The purpose of this study is to review both international and national experience concerning the creation of Road Funds.

Road expenditures generally fall into five categories namely: construction, rehabilitation, periodic maintenance, routine maintenance and operational management. The first two can be classified as capital expenditures and are often financed through borrowing with the last three being classified as current expenditures. These latter three expenditures are generally financed in a number of ways, such as through;

General taxation with the tax revenue being collected by various government departments and then distributed, for spending purposes, throughout all departments by way of the budgetary process.

Earmarked taxes are considered to be general or special taxes that are levied to either support, or fund in full, any specifically identified expenditure items.

Tolls are a direct a means of charging for use and in the case of roads can affect economic behavior in the same manner as the price of a good.

A RF is an institutional mechanism which allows selected revenues to be placed at the disposal of the road department/agency with these being outside the general budgetary reviews and procedures. Whilst in the past road funds have been abandoned as they were unable to supply an acceptable and/or stable flow of funds, more recently this has changed with the introduction of what has been described as "second generation Road Funds".

These are generally funded by either a levy or a surcharge which can best be termed as a 'user charge' and separate from general taxation. These revenues are then paid directly into the RF which is managed by a Board comprising stakeholders within the transport sector. Their job is to administer the fund and determine the level of charges and their distribution in terms of expenditures to be funded. In terms of funding by the RF, the most difficult issues are that of the determination of the network that falls within the domain of the fund and, the elements of 'road works' that should be supported by the fund.

Experience of Road Funds

Experience with Road Funds (as the "first generation" Funds) has not been entirely satisfactory. These types of RF were set up as an item within the national budget and represented direct 'earmarking' of government revenues to finance a service [administered and delivered by government departments] and allocated according to pre-defined priorities. These often did not achieve their goals due to poor governance, collection and disbursement and, inadequate contribution to the Fund for yearly maintenance of the road network.

Awareness about the importance of road maintenance has thus resulted in programmes being developed to initiate actions necessary for the management and financing of roads on a sustainable long-term basis. As part of this development, "second generation" Road Funds emerged. These second generation road funds were developed to support the commercialization of road management, whilst increasing the domestic resources available for road maintenance. They were also designed to increase efficiency of resource allocation and use.

These dedicated, "second generation Road Funds" now being implemented has the institutional arrangements in place that allow for a degree of autonomy in both management and private sector participation. They are generally considered to be more 'commercially' operated, are to be found in Europe, Africa and Asia and, have been in operation since the early 1990's. In the situation where the budgetary system functions well, however, there is clearly no need for the provision of non-budget funds or 'earmarking'.

In the past there has been much discussion concerning the merits of 'earmarking' funds for any specific sector. The committing and earmarking of specific taxes to fund road sector maintenance and improvements, however, does exhibit a commitment on the part of Government even though these funds may well continue to be treated as a part of overall government revenues and therefore run the risk of being allocated to other purposes should the Government run into financial difficulties. The second generation funds that have more recently been established, especially in Africa, do, however, exhibit a measure of sustainability. With the revenues for such funds being generated by user charges in the form of levies, surcharges and taxes, the application of which has generally been in the areas of license fees, levies on fuel, and tolls.

International Examples

In the following, examples are given of "second generation" Road Funds that have been implemented in Africa in terms of the key factors concerning their establishment. Details of the revenues collected, and actual performance of the funds, are not given.

3.2 Private Sector Participation [PSP] and Public Private Partnerships [PPP]

➤ Introduction:-

Private sector participation, in the broadest sense of the definition, not only includes BOT type projects but also, what might be termed, conventional type contracts for maintenance, upgrading and development that essentially have no revenue earning capability and are generally projects that are already being undertaken by PWD, using the private sector.

Requirements for the enhancement of PSP in the roads sector.

As a first step it is essential that a management structure for the roads agency be evolved with the assignment of responsibilities for the management of the network. By implication, and necessity, this will require that for the road network there is a comprehensive road inventory, including condition and traffic, and, that the responsibilities for each strata of the network be assigned. Furthermore, the responsibilities in relation to operation, maintenance, upgrading and development of the network, also require to be allocated.

In this respect, tasks are identified that will study the realistic UP roads ownership framework as well as the updating of roads policy. Within UP there already exists two additional agencies, to that of PWD, dealing with the roads sector, namely, the State Bridges Corporation and, more recently, the State Highways Authority. Furthermore, as a part of the realization of an effective core network, it has been identified that there is a need for data on asset condition and traffic if PWD is to be strengthened for core network road maintenance planning and management functions. In the latter case this will involve the establishment of a RMMS which will require inventory and condition data, as well as, traffic data.

Whilst the ownership of the road network resides with Government, it is the community that ultimately pays for the roads. As such it is therefore arguable that the users or stakeholders should also have a 'voice' in both the management of the road network and, the efficient allocation of funds for the development and maintenance of these assets.

Under this issue of sector participation in UP roads financing and management, GoUP is to widen the membership of the RFMC to include further stakeholders in order to look at funding, its allocation and, road sector performance. In addition, funding mechanisms, funding requirements and, the allocation of funds, are also to be examined.

For the efficient allocation of funds to occur it is clear that there requires being, not only an adequate flow of funds, but also that this flow should be 'stable' if both the roads agency is to be effective and its endeavors sustainable. Funds come from various sources, one of which is road user charges, but this alone may be insufficient. Nevertheless, the raising of user charges does not imply that funds will be sufficient or, more importantly, stable. One method of ensuring stability in the flow of funds is the 'Earmarking' of funds but this can place constraints on Governments overall budgeting. The placing of a road with the private sector, wherein the user pays a charge for the use made is, of course, one method to circumvent such a problem. As already noted above, it will be reviewing funding mechanisms, requirements and the allocation of funds.

The final requirement in the process is the introduction of sound business practices for which a commercially orientated road agency is required. As a first step, and as already noted, the GoUP has already established the UP State Highways Authority for PSP, privatization and outsourcing. The next step in the process must therefore be to establish this as an operational and functioning Authority.

What is the meaning of Private Sector Participation [PSP] in the roads sector.

Roads, and their provision, are generally regarded as 'public goods' and, as such, are generally conceived as 'free'. Involvement of the private sector in their provision therefore embodies a measure of commercialization which, if taken to its logical conclusion should, under a market economy, infer some form of efficiency, or return on capital employed, motivation as ultimate objectives. Clearly, however, roads are not 'free' goods like for example air [although this is also debatable], and as such have a measure of cost involved. In the case of road provision, roads are generally provided by Government for the use of the community, who in turn pay for such, either directly through tolls or, indirectly, through various forms of taxation. Given that roads are therefore not a 'free' good then it would appear logical that some form of private sector involvement in their provision, or PSP, might well be envisaged. Nevertheless, it is also clear that there should also be some measure of control over provision and so the concept of Public Private Partnership [PPP] has been derived.

PPP or PSP in transport infrastructure might therefore be broadly defined as a measure of cooperation between the public sector and private sector stakeholder(s) as this relates to the development of a transport infrastructure project or a defined road network. The key to this is identified in the word 'partnership' and subsequently in the overall concept of PPP.

The question therefore follows as to what constitutes PSP or PPP in relation to a road infrastructure project. In order to attract the private sector, the terms of engagement should be such that that there is some form of joint venture mechanism through which the public sector provides some measure of support to the extent required to attract PSP in a project. As such, various PSP mechanisms or structures have been derived to make involvement in the roads sector commercially attractive which can entail the public sector assuming a proportion of the risks attached to a project.

In reviewing the above it is clear that the common thread of co-operation between public and private parties regarding the development of infrastructure schemes, or the maintaining of the network, with public support and private finance [where appropriate], should to some degree be linked with the sharing of risks and responsibilities. The mechanisms and structures that are therefore used for financing, and the sharing of risks and responsibilities, can therefore take a variety of forms.

In terms of PSP, such a partnership between both the public and private sector should therefore be beneficial to both parties with the linking of the public service objective and the entrepreneurial approach to provide the potential for;

- ❖ a collaborative effort to ensure both parties in the liaison benefit
- ❖ goal sharing in terms of the delivery of an efficient and effective service
- ❖ clear division of responsibilities;
- ❖ shared cost and revenue relationships

In general, some of the reasons for PSP in public infrastructure projects can be identified as to:

- ❖ provide access to additional funds over and above that available through Government budgets
- ❖ permit the development of viable transport infrastructure projects that have been omitted from works programs due to the lack of sufficient funds
- ❖ Bring to the public sector the private sector goals of efficiency and value added.
- ❖ provide for the construction of a potentially higher quality product given that the private sector entrepreneur will ultimately be responsible for its operation and maintenance over a defined time period

- ❖ transfer the risks of delays and construction cost overruns from government and the taxpayer to the private entrepreneur
- ❖ Provide for information and knowledge exchange and the transfer of technology.
- ❖ create commercial development opportunities adjacent to an infrastructure project thus creating the opportunity for additional employment opportunities and increased social welfare

PSP in the form of PPP might therefore be considered an appropriate tool for the minimization of public costs due to access to additional sources of funding and the potential for efficiency gains from private sector involvement. Furthermore, PSP might also be considered for use in accelerating the implementation of network improvements. Although constrained budgetary allocations have increased the attractiveness of PPP's for the public sector, the aim of PPP's is wider than just the mobilization of financial resources. Other benefits can include: the merging of public and private sector skills; possible improved cost efficiency in infrastructure provision etc.

The motives for the private sector to participate in public private partnerships are straightforward. The private sector will always participate in a project if the rate of return on their investment is sufficiently attractive.

The basic principle of public and private sector involvement in the road sector, through PPP schemes, is therefore a trade-off between public interest - requiring a balance between socio-economic costs and benefits - and business interest - requiring a minimum return on invested capital. However, without the latter private sector involvement might well be minimal. Finally, it is worthwhile at this stage to broadly identify what might be considered to be the principal objectives of both the public and private sector, as shown below.

Public Sector objectives: The public sector objectives, in relation to large-scale infrastructure projects, include:

- ❖ the implementation of policy,
- ❖ planning criteria, through policy integration and the amalgamation of local, regional, national development plans;
- ❖ the maximizing of social and economic benefit with minimum cost through achievement of 'value for money';
- ❖ the minimizing of environmental and social impacts;
- ❖ the adherence to both strict and the highest possible technical standards.

Private sector objectives: The private sector objectives, in relation to large-scale infrastructure projects, include:

- ❖ the maximizing of the return to the stakeholders with minimum risk and financial cost;
- ❖ the adherence to the company's investment strategies through either diversification or specialization;
- ❖ project ownership and revenue extraction over the period that the infrastructure is financially viable to operate;
- ❖ securing of the option to transfer/lease the infrastructure to another operator, if predicted operating/maintenance costs, in addition to major renewal costs, are a significant threat to longer-term financial viability.

3.3 Financial Management System

➤ Introduction:-

- ❖ Present system of keeping financial record in PWD does not disclose, crucial information like revenue arrears under various revenue heads amounts due and payable to contractors and others, at any point or time, hence effective fund management is difficult. In absence of this information on receivables and payables at divisional level, fund requirement and fund receivable from revenue sources, cannot be informed and consolidated for fund arrangement planning, at circle level, zonal level and HO level. There are about 300 divisions/subdivisions, 48 circles, 17 zonal offices and Head Quarter. Absence of precise fund requirement for implementation of various works in progress at divisional level, affects the smooth funds flow to Division Level resulting delay in implementation of work programme and further resulting into cost overrun. At present fund requirement and fund allotment is an adhoc basis.

- ❖ Absence of Receipt and payment account on monthly basis. Cash book related sub registers, like work expenditure Register, shows only monthly expenditure and progressive expenditure, expenditure at establishment, expenditure on contingencies are available either in form of register or in form of periodical reports. But there is no separate record or report showing amounts received in form of funds from HO, amount withdrawn from banks under CC Limit with division. Hence there is need for maintaining receipt and expenditure account at Divisional level circle level as consolidation of divisional Receipt and payment account and at HO level. This will give consolidated picture of funds received, funds utilized and balances available in bank or through CC limit at divisions.
- ❖ Asset Register showing record of all assets having PWD ownership and showing date of acquisition, completion of construction location, tramples in and out with dates value of assets as record and other related information not kept on record and or reported to HO at least once in a year.
- ❖ Monthly statements sent by divisions/subdivisions showing expenditure on works by division during month in prescribed format are regularly and timely sent at center and there from to HO in well bound books. However these reports are not consolidated either at circle level of HO levels during the month and progressive both in terms of amounts spent and physical progress on works at divisional level in summarized form. These reports are being sent promptly to HQ where those are not consolidated and used for taking any decision thereon at HQ level. These reports are discussed in periodical meeting with little outcome in terms of decisions.
- ❖ It was informed that both technical and administrative/financial staff is engrossed with workload which according to them is doubled from INR. 12000 crores in 2011 to around 30000 crores in 2016, without corresponding increase in manpower.
- ❖ Out of around 30 reports to be sent by Divisional office in formats to authorities like CE, Finance Controller, Accountant General during periodical intervals many reports are being sent merely as formalities some of which are sent much later beyond due dates hence of little use for taking actions for receiving officer who may call for the information again, resulting duplication of work.
- ❖ For divisions reasons there is regularly relating to payroll works, which consumes most of the time of accounts teams, in the beginning and at the end of the month. Some of the reports have become redundant by non-use.
- ❖ For analyzing funds required for work lender progress cash credit limit is available to DO of division. Allocation of this limit is based on geographical location requirement recommended by committee wherein MLAs, MPs are involved. In absence of need based considerations other considerations have weightage and ongoing work are suffered for want of funds Delays in completion of work due to this and similar reasons causes cost run over, and inconvenience of public in that area waiting for completion of project.
- ❖ Comparison of efficiency in work progress within division among divisions, circle and zone is not possible since data based on common evaluation criteria like fund/quantity ratio, quantity/quality ratio, and quantity/quality/speed ratio. These and similar criteria are either not developed yet or not considered at all. This means there is absence of evaluation system.

- ❖ There is also absence of system for monitoring progress of works. Though the progress is reported in prescribed format, backlog or efficiency towards use of funds for completion of work is not highlighted and explained by competent authority. In the present format of periodical work progress report in utilization of funds in cost effective way, there is no column for showing reasons for backlog in expenditure or otherwise.
- ❖ The weaknesses in Financial Management and accounting system shown above are only indicative. There are very detailed and clumsy rates and procedures in force in PWD accounting system reporting systems. Their use is not very strict, it is as is and where/when is basis, unless the work allotted is on urgency basis. Some of the rules and procedure in old financial hand book have become obsolete. Strict application of all rules, regulation and procedures are not duly time consuming but also crossing limit of patience.

3.4 Present Status of Budgeting System

➤ Introduction:-

In present budgeting system of PWD planning division decides budgeting allocations for expenditure to be incurred on different heads (works) during the year in advance. Budgeting estimates for next year are prepared by various divisions in PWD and sent to planning division. When received planning division consolidates the divisional provisions in PWD budget and submits to State Government for approval. The estimates are either prepared by divisional heads and are consolidated as PWD budget or budget estimates are prepared based on last year's budget on adhoc basis. Budgeting provisions where voted become allocations which are used for withdrawing funds for actual expenditure on the work head during the year.

There is no cash budgeting in PWD accounts this means there is no plan to use the cash available, through cash credit limit or through receipt from other sources. There is no planning in advance i.e. at the beginning of the month or quarter or priorities for work on which available cost is to be spent. Similarly there are no rules as regards how much cash allocation to be made on which work priorities are decided by Do of division unless those are expressly instructed to division from circle level. Use of budget allocation to the division is monetary and not as per quantity work to be performed 80% of the budget is allocated to ongoing. As a result there is possibility of remaining backlog of old works where as new works may get funds for execution earlier. TES has also submitted their report on computerization of Budgeting system in 2018.

3.5 Costing System Present status of costing system in PWD

➤ Introduction:-

In PWD there is absence of costing system in real sense with no proper costing system for the works executed, there is no possibility of comparison between in house works, inter divisional works or out sourced works. Only inputs one considered deciding works costs and there are no parameters for considered cost of output. There are not concepts like direct costs indirect costs allocation of establishment overhead. Definitions of unit standard cost of unit are not present for the purpose of comparison and evaluation of performance. Cost center approach for evaluation of divisional performance is also absent.

As regard costing of items covered under estimation process, only direct costs are considered without considering establishment overhead hence the estimation of work based on these cost of units does not give correct unit values which are the basis of process for inviting tenders.

3.6 Systems related to strengthening of above finance related systems

➤ Introduction:-

These are three systems namely

- i. Management Information System
- ii. Computerization of finance related systems
- iii. Training of staff to implement the reforms suggested in financial management system, budgeting system, costing system and also in Management Information System and Computerizations.

3.7 Management Information System

Management Information System PWD's detailed working procedures rules and regulations provide for elaborate reporting's in prescribed formats (also elaborate), which are around 30 forms to be sent at periodic intervals from Divisional/ sub divisional officers, to (1) Accountant General representing State Government Accounts/Finance department. (2) To finance controller of PWD accounts department at PWD headquarters and (3) To Chief Engineer of PWD. Some of these reports are unnecessary out dated and some are being faithfully sent to respective authorities, who do not go through or take any action on these report. Reports sometimes are being sent too late as submission duty. Due to late receipts of these reports, receiving officer IE unable to take timely action, hence some information is called to which is duplication of work. Similarly copies of reports which are sent to AG by Divisional offices are not sent to Finance Controller who is kept in dark, while AG's office is being informed. These reports do not give receiving officer scope for timely action due to late submission. As a result whenever any action as report is warranted, the same information is again called for one of the major and important monthly report being sent by Divisional Accountant/and DE through SE at circle, is monthly and progressive work expenses incurred by the division on various works under execution in Division. This report is at present being sent by all division to their respective circle offices and there from in duly binded from covering reports from all divisions is regularly sent to CE at head office.

This report in prescribed format having 22 columns includes columns for showing targeted expenditure and actual expenditure with physical progress shown in percentage. Wherever there is obvious backlog is seen in physical performance as compared with actual expenditure incurred in percentage of total earmarked expenditure for the work no explanation is shown given therefore not there is column kept for such explanation.

Further all divisional reports are received through circle office to head office in hundreds, from all divisions/subdivisions around 300-350 in number compelled summary of all these reports is not prepared. Such summary if prepared would have given important information like total funds expended on works in all divisions against total funds allotted. Works having backlog in physical terms against expenditure incurred etc only action after receiving report is discussions on performance etc in a meeting at HO, of all DE's, SE's and CE's after circulation of the report. Financial controller is not in picture since copy of the reports is not sent to him which duplication of work. Similarly copies of reports which are sent to AG from Divisional Offices, are not sent to Finance Controller, who is in dark as regards the happening in divisional account department. These reports do not give receiving officer, scope for timely action. As a result, whenever any action on report is warranted the some information is again called for. One of the major and important monthly reports being sent by Divisional Accountant and DE through Supd Engineers at circle is progressive work expenses incurred by division on various works in progress in the division. The report at present is regularly sent by all division to Supd Engineers office at circle. The circle office collect all monthly reports from divisions in that circle in compute print are form; and after binding in wired binding sends those to chief engineer at head office. In spite of elaborate efforts taken in preparation and submission to CE office, it was understood that hundreds of these reports received by CE office from around more than 300 divisions and subdivision, no compilation of these report for precise summary summarized information of crucial nature highlighting comparative.

This report in prescribed format is having 22 columns which includes columns for showing targeted expenditure and actual expenditure with columns showing percentage of physical performance. However there is no column showing reasons for heavy physical backlog as compared to expenses incurred thereon.

As a result of this status of reporting crucial decisions, like funds requirement, divisional level and total flexibility CCL in operation comparison of work progress in expenses vis a vis physical progress, identification of backlogs units or efficient units, overburdened units against no or little work unit indicate wastage of fixed establishment changes etc. Need for effective efficient and timely MIS based on computerization is highly expected.

❖ computerization – Present Status

There are around 400 hardware installations in PWD spread over around 300 Division/Subdivision, circle offices, zones and headquarters. Except extensive use of unit at HQ, some zones and some circles, full utilization of the hardware installed is not yet started. Its use in maximum fields of PWD working,

procedure and regulations like Financial Accounting System Costing MIS reporting on road conditions etc is not yet started. This is because, extensive staff training computer operation is yet to be implementing.

❖ Training

Training part will pick up, when institutional development plan for organization restructure, HRD. Training Needs Assessment (TNA) covering the group of personnel in respective fields for imparting training-either by in house facility or from out sources.
Intended Technical Services

Suitable changes in organization structure are assured while designing work plan for Financial Management System and other related components listed and discarded in foregoing paragraphs.

The basis objective for developing Financial Accounting System as pointed out in recommendation that the system should generate data/information which will be useful to plan expenditure on works, compare alternative strategies to monitor implementation and record the way's the funds are used. The system to be designed should be able to produce.

- i) Receipt and expenditure statement
- ii) Account for all assets overhead directly by Road Agency (excluding capital invested on roads)
- iii) Record in simple manner the financial condition of roads like replacement value of road network.

i) Designing of Receipt and Expenditure Account

At present there is 15 digit code system for describing account head traditionally called budget head. This system is in use for all departments of State Govt. in all other states and in Central Govt. Hence without disturbing this system of changing budget head, parallel system of accounting in PWD, will have to be designed to achieve 3 objectives shown above.

First step in this respect will be to prepare chart of Account to suit the present PWD Systems and procedures. This chart of Account will give nomenclature to all types on expenditure and revenue giving names as accounts heads for all possible activities at various levels in PWD organization. The chart of account will show flexibility for adding eliminating or changing names of account heads. The chart of account to be prepared, will suit to requirements for computerization. As far as possible the chart of account will use existing account heads with or without change in nomenclature. The account heads suggested will have clear classification into Revenue heads (covering heads for revenue expenditure and revenue receipts) and capital heads covering capital receipts and capital expenditure next step will be to prepare Accounting manual describing nature of all possible entries in the books of accounts suggested heads. The manual will give nature of entries request to be prepared in chronological order i.e. for initiating of any financial transaction up to final settlements. The accounting manual will help the existing accounts staff as training manual. The staff will be used to introduce and implement this commercial accounting system, as parallel system which will be operated initially manually, and often suitable interval through computerization.

The set of books required under this system are (1) Cash Book covering cash hand book columns (2) Petty Cash Book (3) Ledger of works showing debits and credits to works account, (4) Ledger for accounts other than works (5) Suppliers Ledger (6) Stores Day Book and stores leader (7) Asset Register (8) Loans and Advances Register (9) Register for advances paid and Advanced received (10) Register of Deposits received and Deposits paid etc. (11) Journal Entry Register, showing transfers, rectification, cancellation entries.

The list of statements generated will be

- ❖ Monthly Receipt and Expenditure account and cumulative progressive R&E account
- ❖ Work Register in existing form showing expenditure on all works during the month and cumulative and also showing physical progress in quantities cumulative for the month and cumulative and in procedures.

- ❖ Comparative statement showing expenditure on work as targeted and actual and also showing quantities physical progress targets and actual giving clarification of backlog form. This should be monthly statement.
- ❖ Annual statement of Asset generation along with cumulative list of assets owned by the division showing their location and value.
- ❖ Monthly statement of stores received used and stock at the month end. Stock register showing quantity value and location.
- ❖ Monthly trial balance showing cumulative version of Receipt and expenditure on all accounts.

The suggested accounting system through enact of accounts and accounting manual will generate required first two objective given in the beginning namely (1) Preparation of Receipt and Expenditure account (2) Account for all assets owned directly by PWD.

The system will also facilitate production of financial data need to plan expenditure, compare alternative strategies etc.

As regards, the third item of objectives namely record in simple fashion the financial condition of roads like replacement value of roads this is possible only if concept of depreciation as finally decided road value at the rate based on life span of road in intact condition barring minor repairs. Alternatively the road which is due for use designing may be treated as road due for replacement. In normal sense a road with intact existing structure parameters to be continued, cannot be treated as due for replacement. Instead it becomes due for heavy repairs.

3.8 Budgeting System:

At present the budgeting system for PWD is partly based on information received from divisions from their yearly work plan prepared scientifically on the basis of list of ongoing works and new works to be started. In absence of generation and timely receipt of required information from Divisions, the budget preparation at HO level is partly conceptual and partly based on timely receipt of information from divisions. Basic objective of budgetary planning is to identify priorities from precise information an ongoing works and new works along with sanctioned estimates therefore.

Planning division at HO on scrutinizing of all information received from division will decide priorities firstly on need basis thereon technical basis followed by financial basis. Sanctions at required levels are assumed on all works before depending priorities in the manner suggested above. Priorities finally decided will be documented and will form the basis for budget preparation and budgetary allocation which further depends on actual availability of fund, Decision on priorities will be based on need oriented planning techno-economic viability of each work and its cost effectiveness based on benefits and cost quantification on scientific manner.

Study the approach and appropriateness of methodology for preparing budgetary information collect from divisions its timely and mandatories by submission to planning division, methodology of planning division for declaring priorities and proportioned budget of PWD based thereon in scientific manner. Identifying need for roads based on geographical study instead of on other considerations, is precise requirement for preparation of PWD Budgets. Similarly using scientific study of proposed work plan for deciding priorities for inclusion in budget, and thereafter allocation of available funds is also precise requirement for preparing required budgetary system.

3.9 Costing System

Costing system for PWD work in read sense is absent to introduce prefect costing systems in PWD, the following steps will be needed

- To install costing section at head office with qualified and expensed cost accountant at its head and his subordinates at various circles looking after recording cost inputs on all works in progress in divisions, under the circle. Works will be treated as unit cost Centre while decisions will be treated as main cost centers.
- While keeping record of all direct inputs in unit costs scientific allocations of all other indirect costs including establishment cost and contingency costs be treated as overheads. These overheads will be allocated in proportion to direct cost inputs on each of the work in progress any early basis. The unit costs further will be added with establishment costs contingencies costs and other costs which cannot be allocated as direct cost on unit of work in same manner. This unit cost will further be added with interest cost required to be gone by PWD for funding arrangement from basis through CC Limits allocated to Divisions Compilation of all these costs accumulated at unit cost centers will facilitate identification of cost overruns against sanctioned estimates which form the basis of tendering procedure. Compilation of input costs at Division level will give total input cost of division as cost center.
- Compilation of input costs at unit level and at division level will give reconciliation of total expenditure at Division level as reflected by total expenditure in financial accounts of division proportion changing of all costs incurred at levels of circle, zones and headquarter as administrative and interest overheads to cost compiled at division level will give Total Divisional level cost as cost center.
- Compilation of total cost at division level, is only one part of overall implementation of costing system i.e. input costing system. For comparison evaluation and monitoring purpose, compilation of cost center wise output, against compiled input is necessary.
- Evaluation of output from works begins from the completion of work i.e. from commissioning of road for use. Criteria for identification quantifying and valuation of benefits from the use of road constructed will have to be developed. Life span of the road will have to be scientifically decided. Accrual of various benefits from use of roads as compared with, difficulties, inconveniences, no of accidents, different types of handles, loss of time, loss of fuel etc. as faced prior to construction of road. Achievements of benefits against these disabilities prior to road construction in scientific survey findings (of any) will disclose the benefits from road construction while some of the benefits from road construction like benefit of use by socially backward population, environmental benefits, which cannot be quantified and hence evaluated as economic benefits; some benefits like increase in road use by growing population by using cycles, autos, cars, buses, goods transport facilities can be quantified and evaluated in accepted scientific manner.
- The benefits which are scientifically evaluated at present prices and compiled for each year throughout the life on road as predefined. Will give total economic benefits from the road use after applying appropriate yearly growth rate for years increase in road use during the like span of the road. The total of these yearly benefits at current prices will form the output as against compiled input. This output will consider only quantified and evaluate benefits and will not consider social benefits as economic uplift of nearly user society.
- As against input compiled when compared with total value of outputs (as reduced by yearly maintenance cost and heavy repairs of any) will give the result in directing whether road construction is at loss or is in profit.

Management Information System to be used on reforms in the above 3 finance related systems use of MIS after implementation of double entry accounting system and computerization will be boosted. Suitable

changes mostly by elimination of duplication and non-use in present reporting system will enhance the awareness of management over division level as to what is happening, what are the areas to be attended, to be taken timely steps for problems if any. Management reporting also will be by principle of Management by exception to avoid unnecessary routine reporting. Reporting will be reporting for reporting for information and reporting action.

❖ Computerization

Installation of hardware in all levels of organization i.e. Division/subdivision, circles, zones and head offices is in progress, but since for want of training programme for identified users is laying behind. The training programme will cover training to accounts staff; who can utilize computer further proposed installation and use of double entry accounting system. Using Accounting software Tally 9 ERP version, will be advantages for application, in accounting system, costing system and budgeting system. Initially computerization may be slow but once advantages in keeping accounts and using it for MIS output, computerization will be popular in long run.

❖ Training

Once the Financial accounting system is introduced along with reforms in Budgeting system and introduction of costing system. Training Needs Assessment will be made Identification of suitable staff members in divisions will be made their and training programme carried out at circle level by appointing training experts in that field.

❖ Conclusion

For implementing reforms in the fields related to financing systems as elaborated above it can be suggested that GOUP endorsed steering Committee will include expertise like Chartered Accountant Cost Accountant. Consultants suggested reform measures in these fields may not be effectively implemented monitored and evaluated by technical authorities like CE, SE and DE. To have desired results of the institutional reforms suggested in field of finance there should be qualified members in steering committee to avail desired and sustainable results. Some of the observations and findings shown under current status of each component are likely to be questioned, but since this is inception report based on preliminary studies and discussions with officers concerned these observations and findings are subject to verification and conformation.

4. Future course of action:

Objectives	Decisions already taken	Progress to date	Action Milestones
A. Effective and standardized PWD-wide budgeting and costing systems	GOUP endorsement of study findings on PWD budgeting and cost control weakness	Budgeting and cost management functions included in PFMS development (see below)	Improve the PWD costing methods, processes; centralise costing/ estimating tools, skills- April 2020. Implement IT-based budgeting and costing systems across PWD with appropriate controls and reporting functions –July 2020.
B. Sound PWD	EAP-oriented	Development of	Commission FMS in

project/ programme financial management system linked with roads planning and operations MIS	Financial Management Systems (FMS) under development since 2018. IDS study findings on FMS needs endorsed by GOUP	enhanced FMS according features and asset management functions already underway	HQ-October 2019 Enhance Accounts Cell role and resources to support PWD-wide computerized FMS operations-July 2020 Extend networked FMS to all field levels-January 2021
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5. contributions required in the field of proposed work

A. Techno-economic feasibility report for funding the project from World bank

- ❖ Flow chart of funding and utilization.
- ❖ Reporting frequency for fund utilization to World Bank.
- ❖ Accounting of receipts from World Bank-how funds are channelized through whom, whether funds are sent as reimbursement of actual expenses or fund are sent periodically, by instalments.
- ❖ How the repayment of loan is done, when repayment is started whether instalments are equal (+ interest) or equitable (equal instalments including interest).
- ❖ What are the sources of paying instalments.
- ❖ How the periodical performance of the project is reported in compiled format.

B. What are the other funding sources including state funding

- ❖ What is their funding pattern, frequency and respective purposes
- ❖ Are these sources, in form of grant or those are being repaid
- ❖ Through whom these fund are received directly by cheques or by transfers through GOUP
- ❖ How the performances are reported periodically in compiled format

C. How the total cash credit limit is decided for division

- ❖ What is the basis of allocating C/C limit among divisions
- ❖ How the interest on C/C limit is accounted and how it is capitalized and charged to works
- ❖ How the periodical C/C limit balance is reported by divisions
- ❖ Whether clarification is sought if its underutilized or over utilized

D. How the funds are transferred

- ❖ From State to HO
- ❖ From HO to Divisions
- ❖ From division to divisions
- ❖ From one budgeted to other budget head
- ❖ Who authorize fund transfers, how the transfers are accounted

E. How the proper utilization of funds by division is ensured. Whether fund utilisation report is periodically sent by divisions.

- ❖ Reporting manner of ongoing works at divisions
- ❖ What is frequency or report from Divisions to HO

- ❖ Whether expenditure on works is reported for the month and also cumulative.
- ❖ How the physical performance is quantified and reported against actual expenditure incurred.
- ❖ If expenditure and physical performance do not match, whether clarification is sought from the divisions.
- ❖ What actions are being taken if serious discrepancies are found in comparing physical performance with expenditure
- ❖ Is there any need for improving the existing format for reporting

F. Costing System

- ❖ Whether costing system in real sense is in operation
- ❖ If in operation, how it operates
- ❖ What use of costing is done to monitor the works under implementation
- ❖ If costing system is not in operation how far it is feasible to introduce costing system
- ❖ What record is necessary for introducing costing system
- ❖ What cost units are to be considered for costing system
- ❖ Whether types of road and their location can be used for deciding cost unit

G. Budgeting System

- ❖ What initiates preparation of information for budget preparation by planning department i.e. how yearly budget preparation work is started at divisional level.
- ❖ Who prepares the rate schedule for preparation of estimates for getting it sanctioned from authority.
- ❖ Who is the authority for sanctioning budget estimates. Whether authority for sanctioning budget estimates and sanctioning work performance is the same.
- ❖ How the budgeting performance is evaluated.
- ❖ How the instances of large expenditure (more than 20%) during last month of the year is treated. Whether last month high expenditure is questioned and clarification is sought there for.
- ❖ Whether variance analysis is done and major discrepancies are questioned and clarification is sought there for.

H. Cash Book-Payments

- ❖ Flow chart for issuing cheques to contractors for (a) Advance (b) Running Bill (c) Final Payments.
- ❖ Whether certifying completion of work/advance payment is done by same authority who is signing cheques at Divisional Level.
- ❖ Whether suppliers bills for stores etc is certified by the same person who is signing cheques for payment.
- ❖ Petty cash transaction whether under imprest system.
- ❖ How transfers corrections etc are recorded and accounted.
- ❖ Periodical reporting for expenditure by divisions, in what format is done.

I. Staffing Pattern in PWD

- ❖ Staff positions at HO

with numbers	at Zones
	at Circles
	at Divisions
	at Sub Divisions

- ❖ Finance Personnel at HO

with numbers	at Zones
	at Circles
	at Divisions
	at Sub Divisions

- ❖ Audit personnel at HO
 - with flow chart at Zones
 - for audit system at Circles
 - & reportability at Divisions
 - at Sub Divisions
- ❖ Costing Personnel if any & their location, duties etc.

J. Present rules and regulations for authorizing financial decision, namely

- ❖ Sanctioning authorities/Bills passing authority/Administrative sanction
- ❖ Cheque signing authorities with respective limits of amounts (i) at HO level (ii) at Zone, circle level (iii) at Division level

K. Nature of duties of authorities

- at (a) Zonal level
- (b) Circle level

6. Proposed methodology during the tenure of the Institutional development study projects.

6.1 Strengthening Components

S1. No.	Strengthening Components
1.	<p><u>Financial Dimension</u> Increasing Liquidity of Funds and public and private participation for road funding Cash credit like arrangement with a bank in which each district is having an overdrawing facility to overcome liquidity crunch, which is subject to limits given by Chief Finance of Officer of PWD. The bank can be paid back one the CCL is issued.</p>
2.	<p><u>Resource Mobilisation for Road Fund</u> Increase Motor Vehicle Tax i.e. Road Tax by only 50%. It can generate nearly INR. 100 crores every year Introduce Surcharge on Vehicle Insurance @ 10%. It can generate nearly INR. 50 to 75 crores per year.</p>
3.	<p><u>Financial System</u> It should be able to produce; financial data needed to plan expenditures, compare alternative strategies, monitor implementation and account for the way funds are used. The PWD needs to move towards more commercially oriented system in which it has to: Prepare receipts and expenditure statement Account for all assets owned directly by the road agency (that is, excluding capital invested on roads). Record in simple fashion the financial condition of roads like the replacement value of road network.</p> <p><u>Budgeting System</u> The budgeting system be developed in a way that it priorities the works for any cut in the allocations by reflecting in the strategic and management control of the organisation according to the order of importance and need.</p> <p><u>Costing System</u> An effective management control needs to be built around a cost centre cum responsibility centre approach for the division, implying budgetary control, standard costing, and variance analysis for each centre at different levels in addition to functional responsibility like quality, maintenance and development works.</p>
4.	<p><u>Management Information System</u></p>

Proposed MIS for the PWD should be in line with the broad level organisation redesign. Accordingly, the system should capture and process information related to progress/activities under the heads: Development Works, Maintenance & Network Operations and Quality Management.

6.2 Recommendations

Sl. No.	❖ Recommendations
1.	<p><u>Financial Accounting System</u></p> <p>It should be able to produce financial data needed to plan expenditures, compare alternative strategies; monitor implementation and account for the way funds are used. The PWD needs to move towards more commercially oriented system in which it has to:</p> <p>Prepare receipts and expenditure system</p> <p>Account for all assets owned directed by the agency (that is excluding capital invested on roads).</p> <p>Record in simple fashion the financial condition of roads like the replacement value of road network.</p> <p>Produce better information to support and management systems.</p>
2.	<p><u>Budgeting System</u></p> <p>The budgeting system be developed in a way that it priorities the works for any cut in the allocations should immediately be reflected to the strategic and management control of the organization according to the order of importance of need.</p>
3.	<p><u>Costing System</u></p> <p>An effective management control needs to be built around a cost centre cum responsibility centre approach for the division. Implying budgetary control, standard costing and variance analysis for each centre at different levels in addition to functional responsibility like quality maintenance and development works.</p>
4.	<p><u>Management Information System</u></p> <p>Proposed MIS for the PWD should be in line with the broad level organisation redesign. Accordingly the system should capture and process information related to progress/activities under the heads: Development Works, Maintenance & Network Operations and Quality Management. Also the MIS should reflect the level of controlling office and its information requirements.</p>
5.	<p><u>Financial Dimension</u></p> <p>a. Increasing Liquidity of Funds</p> <p>Cash credit like arrangement with a bank in which each district is having an overdrawing facility to overcome liquidity crunch, which is subject to limits given by Chief Finance Officer of PWD. The bank can be paid back once the CCL is issued.</p> <p>b. Resource Mobilisation for Road Fund</p> <p>i. Increase Motor Vehicle Tax i.e. Road Tax only by 50%. It can generate nearly INR. 100 crores every year.</p> <p>ii. Introduce Surcharge on Vehicle Insurance @ 10%. It can generate nearly INR. 50 to INR. 75 crores per year.</p>

6.3 THE PROPOSED REFORMS IN THE EXISTING PWD BUDGETING PROCEDURES

- ❖ Reports based on computerised data processing will be more accurate avoiding details and wasteful use of manpower.
- ❖ Budget procedure will be more realistic and accurate
- ❖ Budget related information will be compiled in a scientific manner before converting the information into budget proposals.
- ❖ Smooth and timely funds flow for execution of works of the sanctioned proposals to avoid time overrun and cost overruns or both.

- ❖ Along with performance report on individual item of works wise budget proposals in financial terms, the report should cover the detailed physical performance.
- ❖ Preparation of periodical and work-wise variances reports especially in respect of serious variances in expenditure, physical performance and time required.

6.4 IMPROVEMENTS NEEDED

There are several particular areas of PWD's finance offices that need to be strengthened, as follows:

- Planning and programming of expenditure
- The utilisation of funds and investment cost-effectiveness
- Monitoring and controlling expenditure as planned
- Making economic comparison of alternative strategies
- Financial evaluation of project implementation at crucial stages

7. Expected outcome of the proposed work.

7.1 Required Output

Sl. No.	❖ Required Output
1.	Implementation on of IT-based budgeting and costing systems across PWD with appropriate controls and reporting functions.
2.	Report to Enhance Accounts Cell role and resources to support PWD-wide computerized FMS operations.
3.	Extension of networked FMS to all field levels
4.	Comprehensive objective analysis of long-term core road network maintenance funding requirements for future Plan processes
5.	Develop a PWD-specific Management Information System (MIS) embracing technical, financial and operational MIS priorities and reporting requirement, networked to all major units
6.	Findings on Development of strategic Road Maintenance Finance Plan integrating MMS forecasts and Road Fund projections

7.2 SUMMARY & CONCLUSIONS

The highlights of the proposed reform can be listed as -

- ❖ Replacement of the present cash accounting into accrual accounting, without disturbing the present nature of recording transactions, keeping registers and records.
- ❖ The introduction of costing, internal audit and budgetary control.
- ❖ Extensive training provided for selected existing and new staff to be recruited.
- ❖ The development of unit costs and the concept of cost centres, for use in performance studies, engineering estimating, contract tender evaluation, stores accounting and stock control.

Research in infrastructure finance with development of enhancements to the existing Road Funds, Accounts and budgeting system as well as legal approach to Financial Management System prepared draft legislation, guidelines for the same in the interests of the infrastructure sector.