

Manual Green Budget



Manual

Green Budget

Department of Finance
Government of Bihar

A Technical Collaboration featuring
The Energy and Resources Institute (TERI)
&
Asian Development Research Institute (ADRI)

2024

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Disclaimer

The thoughts and opinions expressed in this report belong solely to the authors, and not necessarily to the government of Bihar, or any organization, committee, other groups and individuals who were part of the consultations.

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Chapter- 1

Introduction

The realization of Sustainable Development Goals (SDGs), addressing of anthropogenic climate change, bio-diversity loss, and environmental degradation requires an urgent co-ordinated effort in terms of planning, coherent policy design, systematic approaches, strengthened institutions, and well-structured budgets. Since budget exercises are periodically undertaken by all departments, annual government budgets that consider climate and environmental factors can be a potential driver for mainstreaming pursuit of the SDGs and climate action as core developmental activities so as to achieve environmental targets. Furthermore, governmental budgets can also be used as a tool for the assessment of government's activities with respect to various national and international environmental commitments. 'Green budgeting' is a mechanism of budgetary policy-making that can help in systematic mapping and tracking of the sources of funds, outlays, expenditures, and policies. This, in turn, can support co-ordinated policy design and the identification of intermittent as well as continuous financial needs for achieving green objectives related to climatic and environmental dimensions. The Bihar government's Green Budget is the first-of-its-kind initiative in India and is being undertaken by the state's Finance Department. Some of the broad thematic aspects covered in the budgetary process are climate change mitigation, climate change adaptation, pollution abatement, waste management, management of natural resources, bio-diversity and eco-systems, sustainable land use, green infrastructure, sustainable consumption, and the green economy.

[1.1] Rationale

Since the way governments spend their money is an indicator of the government's actions, be it environmentally positive or negative, for attaining environmental goals/targets, governmental budgets can potentially be an effective tool for policy-makers trying to achieve such environmental targets. Furthermore, governmental budgets can also be of help for making an objective assessment of the government's performance in realizing various national and international environmental targets/commitments. Besides direct expenditures, the use of fiscal policy (tax, non-tax, subsidy instruments) to internalize negative environmental externalities is another example of 'green actions' made by the government for reaching environmental targets.

Annual budgeting processes are crucial from the point of view of planning and co-ordination and can be seen as an important facilitator for mainstreaming climate action and environment-related SDG targets in

planning processes. Target 17.14 of Goal 17 of the UN's Sustainable Development Goals (SDGs) reads as "Enhance policy coherence for sustainable development". Budgets are an important tool for ensuring policy coherence by way of mainstreaming sustainable development targets in economic policy and are an important means of implementation of strategies. Institutionalizing green budgeting can lead to the development of active mind-sets within government departments and engender superior planning and co-ordination within the existing fiscal space (Sinha et al 2015). Thus, green budgeting can be an important instrument to mainstream sustainable development horizontally across departments.

[1.2] Approach

The broader approach for green budgeting is based on bottom-up accounting and planning for environmental sustainability by encouraging horizontal mainstreaming of sustainable development. Policy innovation related to green budgeting is based on the following principles:

Principle 1: Green budgeting will follow a bottom-up process for identifying components of schemes that contribute to environmental sustainability.

Principle 2: The green budgeting exercise will be in accordance with strategic priorities of the state as well as universal sustainable development goals related to the environment in sectors such as climate, water, energy, eco-systems, and responsible consumption and production.

Principle 3: The green budgeting exercise will seek to mainstream the challenge of sustainable development by its horizontal integration involving all departments which will be tasked with budgeting exercises.

Principle 4: The green budgeting exercise will seek to enhance transparency and accountability of budgeting processes by dint of a horizontal integration of sustainable development involving various government departments.

[1.3] Purpose of the Manual

Issues related to the environment warrant more attention and priority in the state budget. Along with allocating sufficient budgetary resources for environment-related components of various schemes, the state government must also innovate within the ambit of the existing fiscal space and existing schemes. In this context, it is desirable for the line departments of the state government, civil society organisations and

other stake-holders to figure out the budgetary process, including the allocation for and expenditure on environmental sustainability programmes.

An analysis of the budget enables one to roll out effective advocacy and implementation strategies that can contribute to tangible environmental sustainability by taking climate action steps. The mapping of activities, themes and goals will also enable us to identify gaps that can enable better planning as well as mobilize resources from other sources, be it domestic, international or private.

The purpose of this manual is as follows:-

- (a) To lay down the definition, rationale, and objectives of green budgeting as a tool that contributes towards environmental sustainability;
- (b) To serve as a knowledge document that lays out a methodology for green budgeting for the state;
- (c) To act as a resource base for line departments of the state government that will be involved in the green budgeting process;
- (d) To raise the awareness of governments and civil societies about the importance of green budgeting.

[1.4] Structure of the Manual

Besides this introductory chapter, the current manual has five more chapters. In Chapter 2, the manual describes the strategic green priorities of the state government. Chapter 3 gives an overview of the state budgeting process. Chapter 4 is an exposition of the state of play of issue-based budgeting exercises. Chapter 5 happens to be the heart of the manual and lays out the process and methodology for green budgeting by defining green budgeting, setting objectives, and laying out the step-by-step process for green budgeting. This chapter features the methodology and mapping of themes, activities, and SDGs while revealing the structure of the green budget document along with its flagging limitations. Chapter 6 – the final chapter - suggests recommendations and the way forward.

Chapter- 2

Strategic Green Priorities of the State Government

Bihar has embarked on a rapid trajectory of growth and development, attracting significant attention both within the nation and beyond for its outstanding performance in the sphere of development. This transformation is particularly remarkable considering the state's historical struggle with stagnation and near resignation about its state of perpetual under-development. This transition from austerity to prosperity marks a pivotal moment, ushering in new-found hope and aspiration for the state's residents. The driving force behind these positive changes is the unwavering commitment of the state government to an inclusive and fast-paced development agenda.

To fulfil this agenda, the state government has not only utilized its limited resources most prudently but has also strengthened its administrative machinery and introduced a number of institutional reforms. The results clearly show that the just-transpired growth story of the state's economy is not an ephemeral phenomenon, but the beginning of a long-term stable growth process. Bihar is steadfast in its pursuit of economic growth, actively introducing and executing policies and measures designed to address issues of sustainable development, climate change, resource efficiency, and air pollution. Most crucially, the state's developmental and growth priorities are in harmony with India's national priorities. In the ensuing comprehensive discussion, we will delve deeper into some exemplary ongoing initiatives that serve as praise-worthy components of Bihar's developmental journey.

1. Jal-Jeevan-Hariyali Mission

Bihar is currently grappling with a water crisis stemming from the effects of rapid climate change, which is manifested in deficient and erratic rainfall and a gradual decline in ground-water levels. In response, the state government has evoked the 'Jal-Jeevan-Haryali' scheme, which is being implemented in the form of a mission. This ambitious endeavour is comprised of a range of projects aimed at restoring traditional water sources, constructing new ones, and developing water-harvesting and storage structures. Some of the key activities under this mission include identifying and rejuvenating public water-harvesting structures, the construction of check dams and water-harvesting structures on small rivers and streams as well as in hilly catchment areas.

Moreover, this initiative is tasked with the identification of suitable locations for constructing water bodies in the tableland areas of the state, but excluding forested regions, and digging out Garland Trenches or ditches to store rainwater in foothill areas across the state. As a testament to its progress, the mission has

seen the approval of 1,663 schemes, out of which 1,335 have already been completed. These completed projects have created irrigation potential for 1.21 lakh hectares of land and developed a water-harvesting capacity of 669.93 lakh cubic meters. Additionally, the Department of Environment, Forest and Climate Change in Bihar planted a staggering 3.89 crore saplings in the state during the financial year 2021-22. A prime component of the Jal-Jeevan-Hariyali Mission happens to be the complete solarisation of government-owned facilities such as hospitals, Panchayat institutions, jails, and schools, which is being comprehensively funded and implemented across all districts.

2. 'Neeche Matsya Upar Bijli' and Floating Solar Projects

In a bid to further harness clean energy sources, the state government is planning to introduce floating solar projects. This initiative not only focuses on generating renewable energy but also actively involves the fishing community, ensuring that they benefit from these endeavours while facilitating the smooth installation of clean energy projects at the same time.

3. JEEViKA - Bihar Rural Livelihoods Promotion Society (BRLPS)

Popularly known as JEEViKA, this program has been strategically designed to combat rural poverty in Bihar. It is a collaborative effort involving the impoverished people, the government of Bihar, and the World Bank. The primary objective of BRLPS is to enhance the social and economic empowerment of Bihar's rural poor. The program is tasked with improving the livelihoods of rural poor households by facilitating the development of Self-Help Groups (SHGs) and federations, which in turn enable better access to services and credit for the pursuit of self-employment opportunities. A notable initiative within JEEViKA is the 'Didi ki Nursery,' which focuses on the supply of local high-quality plant varieties in the context of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

4. Bihar's Electrical Vehicle Policy

In the domain of transportation, Bihar's draft Electrical Vehicle Policy, formulated in 2019, is oriented towards establishing a manufacturing eco-system for electrical vehicles within the state. This initiative is geared towards achieving the UN's Sustainable Development Goals (SDGs) in the field of electrical mobility. It also seeks to position Bihar as a preferred destination for investments in the electrical vehicles sector. The mission outlined in this policy focuses on pursuing the national proposal to attain 100% electrical mobility by 2030, ultimately phasing out manually-pulled rickshaws and setting up fast-charging stations at intervals of 50 kilometres on state highways. The policy also aims to attract on-ground investments amounting to approximately Rs 2,500 crores and create employment opportunities for around

10,000 individuals within the state. As part of this endeavour, a top priority is transitioning away from paddle-rickshaws and moving towards 100% electrical mobility by 2022.

5. Augmentation of the Bus Fleet and Clean Fuel Initiatives

Bihar is actively expanding its bus fleet and participating in the central scheme for electrical vehicles known as FAME-II. This drive also encompasses the Clean Fuel Scheme, launched in a 2019 initiative, which aims at encouraging three-wheeler owners to retrofit their petrol/diesel-based vehicles with CNG or battery-operated kits. This scheme seeks to promote the operation of clean fuel-powered vehicles, including CNG and battery-powered vehicles, with the ultimate objective of establishing alternative, low-carbon transport options and improving the ambient air quality. The Bihar State Road Transport Corporation Limited (BSRTC) plays a pivotal role in the procurement of buses and execution of clean fuel-related initiatives. In the financial year 2021-22, a total budgetary allocation of Rs 40 crores has been earmarked for bus procurement by BSRTC, including an expenditure of Rs 114,150,000 on CNG buses. This intervention holds significant importance in engendering a modal shift towards a clean fuel-based (CNG-based) public transport system in Bihar.

6. Climate-Resilient Agriculture

Recognizing the need for climate-resilient agricultural practices, the Agriculture Department of Bihar has embarked on a project to enable the state to handle regular droughts and floods more competently. At first, this initiative was launched in 40 villages situated across 8 districts in 2019 and it has successfully acquainted more than 100,000 farmers in Bihar with climate-resilient farming methods. In 2020, this project's bailiwick was expanded so as to involve some 190 villages in 38 districts. At its core, this initiative recognizes 14 cropping systems as part of the climate-resilient agriculture scheme, aiming to fortify Bihar's agricultural sector in the face of daunting climate challenges.

In conclusion, Bihar's remarkable growth and developmental journey is exemplified by the state's unwavering commitment to a comprehensive developmental agenda that prioritizes inclusivity and expedites progress. The diverse range of ongoing initiatives, as highlighted above, reflects Bihar's dedication to addressing pressing issues such as water scarcity, clean energy adoption, rural poverty alleviation, electrical vehicle adoption, clean transportation, and climate-resilient agriculture. These initiatives, taken collectively, exemplify Bihar's commitment to sustainable development, economic growth, and environmental resilience and make it a noteworthy example of transformative progress while being within the Indian landscape.

Chapter- 3

Financial and Budgetary Landscape of the State

The annual exercise of budgeting is a means for detailing the roadmap for efficient use of public resources. Although the Indian Constitution does not mention the term ‘Budget’, it provides for the provision that the Governor shall, in respect of every financial year, cause to be laid before the Legislative Assembly, a statement of the estimated receipts and expenditure of the government for that year. Under Article 202(1) of the Constitution of India, an Annual Financial Statement showing the estimated receipts and expenditure of the state is laid for every year before the Bihar Legislative Assembly.

[3.1] Institutional Arrangement

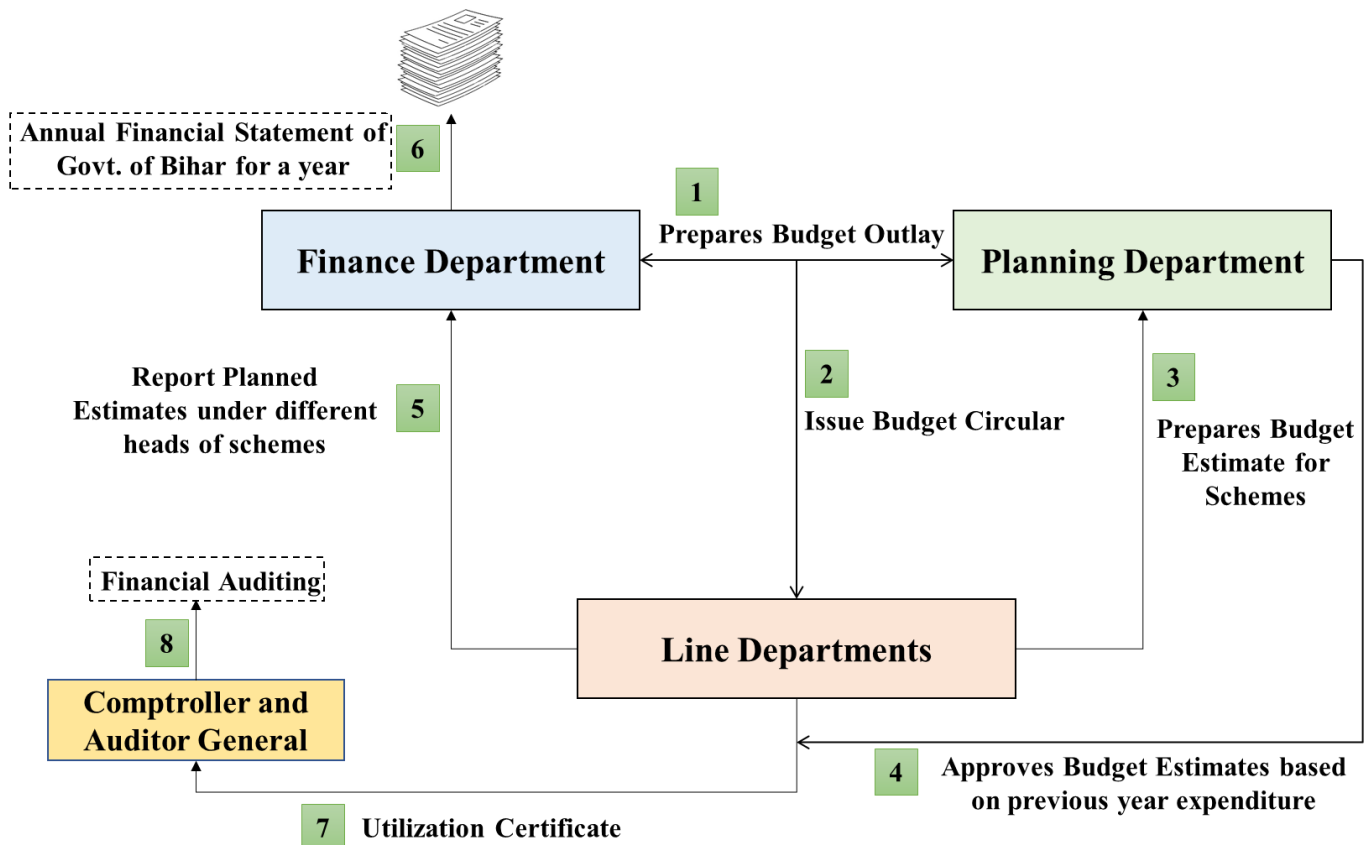


Figure 1- Major stakeholders in the budgeting process

The Finance department is the nodal department which is very closely involved not only in preparation of the budget but is also engaged in budget execution and continuous monitoring of cash inflows and outflows. The finances of the government have traditionally been controlled by the Finance Department. With the phenomenal growth and complexity of governmental activities, several powers have been

delegated to various administrative departments, but the Finance Department continues to have the overall responsibility of co-ordination and control of the same.

The Finance Minister, assisted, *inter-alia*, by the Finance (Budget) Department, has the responsibility of producing the budget in the form of an Annual Financial Statement as well as associated budget documents for other such supplementary budgets. These are furnished as per any need arising during the course of the year for the government. The Finance (Budget) Department is responsible for issuing all instructions and guidelines for the preparation of Budget Estimates and for monitoring the timely receipt of the same from all the relevant departments. The functions of the Finance (Budget) Department, *inter alia*, include the following:-

1. Cash management including Ways and Means, overdraft from RBI, etc.
2. Preparation of the state budget including supplementary/ excess grants
3. Market borrowing programme of the state government and government-guaranteed institutions
4. Maintenance of interest rates for the state government's borrowings and lending
5. Contingency Fund of the state and administration of the Contingency Fund
6. Monitoring of budgetary position of the state government
7. Regulation of expenditure
8. Implementation of financial emergency
9. Submission of accounts

The Planning and Development Department plays an important role in the budgetary process and the public finances of the state. The Planning Commission, besides formulating and monitoring developmental Plans, advises the government regarding the desirable transfer of resources, which are so essential for developmental outlays. The Planning Commission plays an important role every year in formulation of the budget of the state based on its annual scrutiny of the overall position of resources and their spending at the time of examining the Annual Plan. It sets sector / scheme-wise ceilings based on the availability of financial resources, which gets intimated by the Finance Department. These ceilings have to be adhered to by all the departments during the finalization of their State Plan Expenditure Estimates for the ensuing financial year.

Line Departments

In financial matters, each head of the department is responsible for the collection of revenue and control of expenditure pertaining to his department, the receipt and disbursement of which are usually brought

into effect at different points by the sanction of various persons/ authorities. The departments also exercise financial control over all Public Enterprises that have been set up under each one of them.

Budget Controlling Officers are entrusted with the responsibility of controlling expenditure in accordance with the budget allocation granted to the concerned department and/or depending on the collection of revenue by authorities subordinate to that department. BCOs serve as the crucial link between the Line Department, Finance Department, Accountant General and Disbursing Officers at all stages of the budget cycle, starting from preparation of estimates and up to the reconciliation of accounts with the Accountant General over-seeing all the stages.

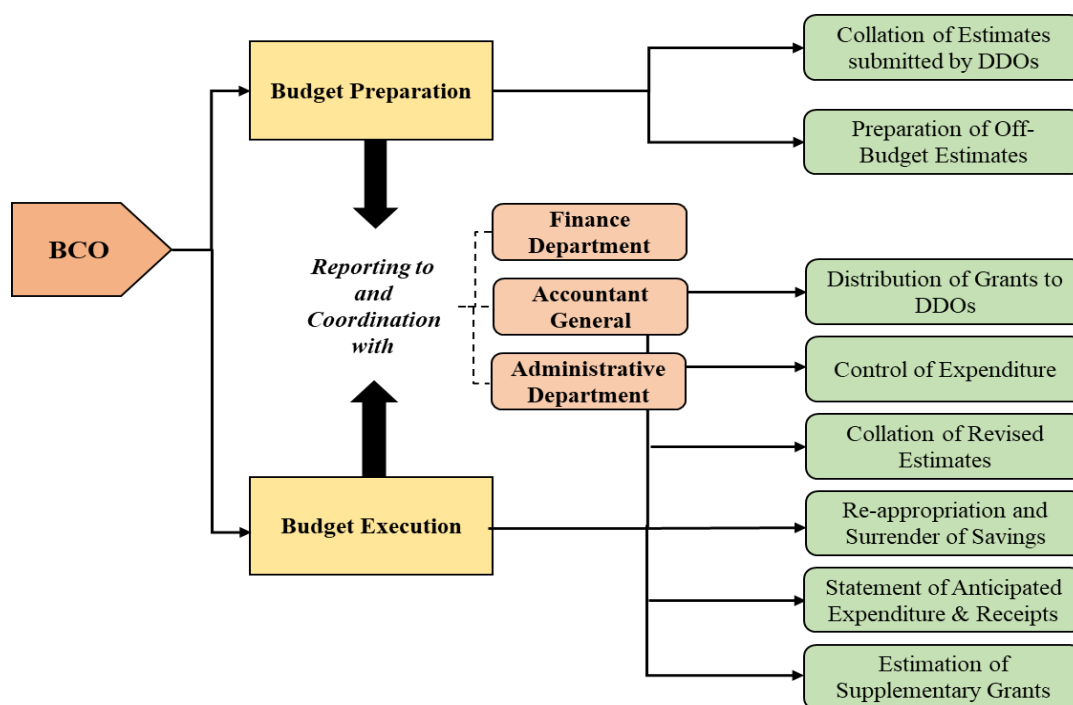


Figure 2- Activities carried out by BCOs during Budget Cycle

The Drawing and Disbursing Officer is a government servant who draws bills, incurs expenditure up to the extent specified, and makes payments on behalf of the government. All officials appointed as DDOs are also the Estimating Officers for that department. As Estimating Officers, they function as the primary agents responsible for the bottoms-up estimation of resources required, while as DDOs they are responsible for the execution and implementation of plan and non-plan schemes currently underway in the state. Given their dual role, DDOs serve as the crucial link between the government and beneficiaries by ensuring that fund requirements are appropriately reflected in estimates prepared and funds eventually sanctioned are used for the intended purpose as well as being properly accounted for.

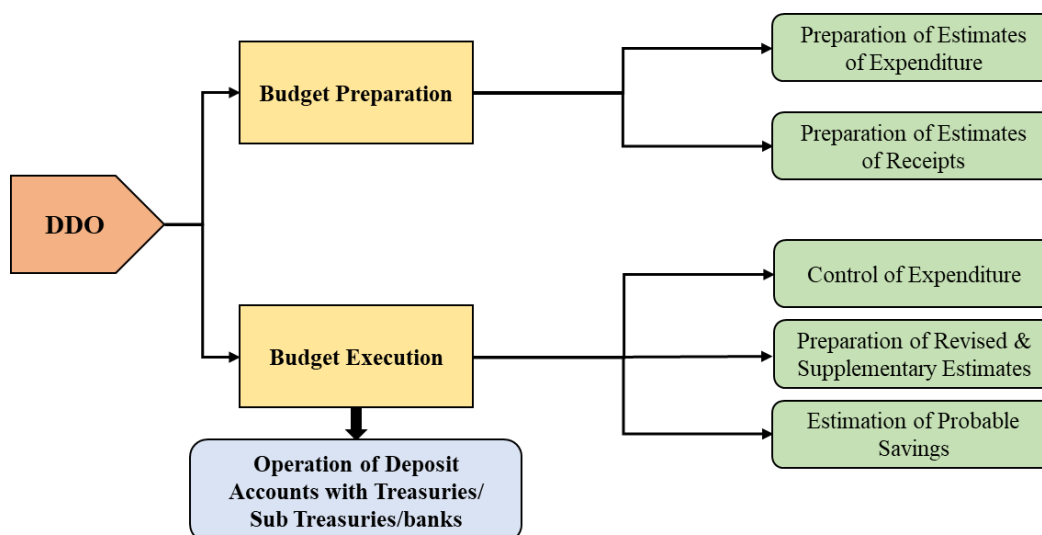


Figure 3- Activities carried out by DDOs during budget cycle

The **Comptroller and Auditor General** is tasked with consolidating the government's accounts. It compiles records from the primary and secondary accounts provided to the audit and accounts offices. These accounts are managed by treasuries, offices, or different departments which are responsible for maintaining such accounts. The Comptroller and Auditor General prepares Appropriation Accounts for each financial year that show, under the respective heads, the annual receipts and disbursements, which are then submitted to the Governor. These accounts and reports are then presented before the Assembly.

The **Reserve Bank of India** acts as a banker to both the union and state governments. All receipts and expenditures of the state government are made through Agency Banks as approved by the RBI. As per instructions of the state government, RBI looks after the public debt management and investment of surplus funds on behalf of the state government. RBI also provides Ways and Means the facility of drawing advances and overdrafts in order to fund the state government.

[3.2] Financial Accounting

[3.2.1] Basic Structure of Budget

Under Article 150 of the Constitution of India, the accounts of the states are to be kept in formats prescribed by the Comptroller and Auditor General of India. The general structure of the budget closely follows the structure of these accounts. The accounts of the state government are maintained in three parts:

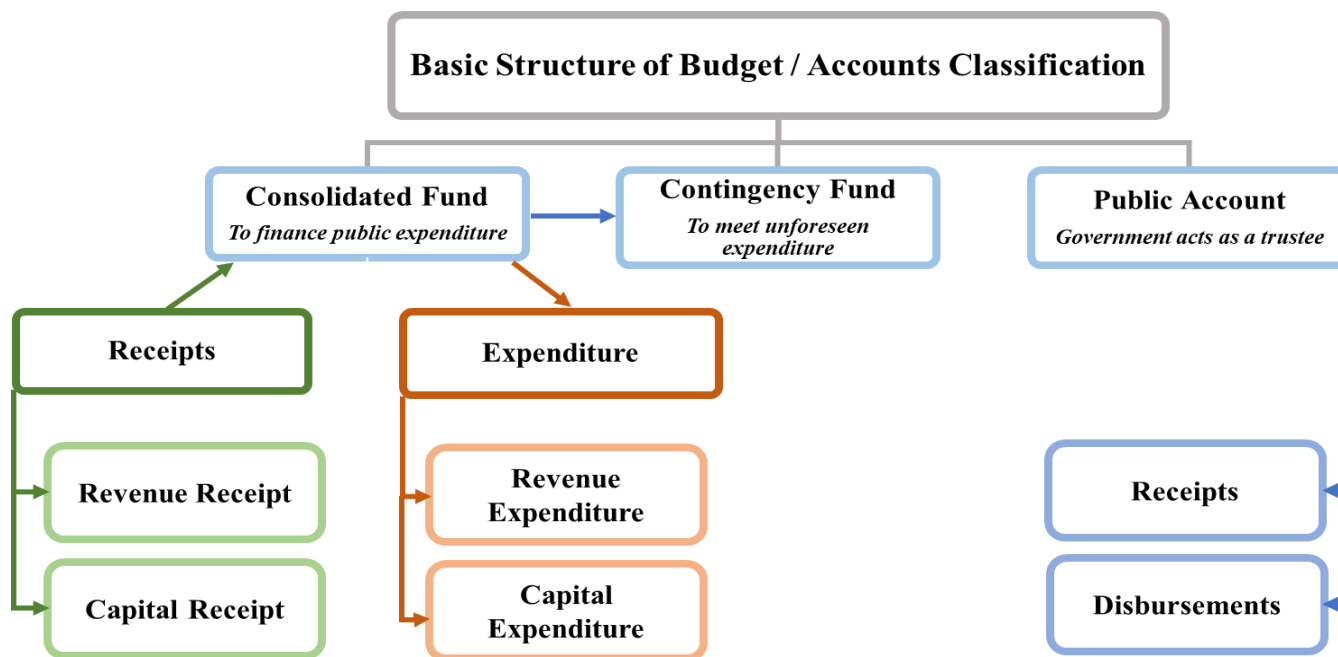


Figure 4- Basic Structure of Budget / Accounts Classification

1. Consolidated Fund of the State

This fund is comprised of all revenues received by the state government, all loans raised by the state government, Ways and Means advances extended by the Reserve Bank of India, and all moneys received by the state government in repaying loans. No money can be spent from this fund except with approval of the State Legislature.

The Consolidated Fund has the following two divisions:-

- i. Revenue Account
- ii. Capital Account

2. Contingency Fund of the State { Article 267(2) of the Constitution of India }

This fund is in the nature of an imprest which has been created by the state legislature by legislation and is placed at the disposal of the Governor so as to enable advances to be made for meeting unforeseen expenditure. The division-wise transactions in the Contingency Fund are not accounted for in the budget document.

3. Public Accounts of the State { Article 266(2) of the Constitution }

Apart from the above, all other forms of public moneys received by or on behalf of the government, where the government acts as a banker or trustee, are credited to the Public Account. The Public Account includes re-payables like small savings and Provident Funds, deposits, advances, reserve funds and remittances.

The net cash balance available with the government is also listed in the Public Account. No legislative authorization is required to withdraw any amount of money from the Public Account. The Public Account is not subject to the vote of the legislature.

[3.2.2] Resources of the State Government

The various resources made available to the state are described below:-

1. **Revenue receipts** consisting of tax revenue, non-tax revenue, the state's share of Union taxes and duties, apart from grants-in-aid from the government of India.
2. **Capital receipts** comprising miscellaneous capital receipts such as proceeds from disinvestments, recoveries of loans and advances, debt receipts from internal sources (market loans, borrowings from financial institutions/commercial banks), and loans plus advances from the GoI. Both revenue and capital receipts form part of the Consolidated Fund of the state.
3. **Net Public Account receipts:** These are receipts and disbursements with respect to certain transactions such as those involving small savings, Provident Fund, reserve funds, deposits, suspense, remittances, etc. which do not form part of the Consolidated Fund. These are kept in the Public Account set up in accordance with Article 266 (2) of the Constitution and cannot be subjected to voting by the state legislature. The government acts as a banker in this case.

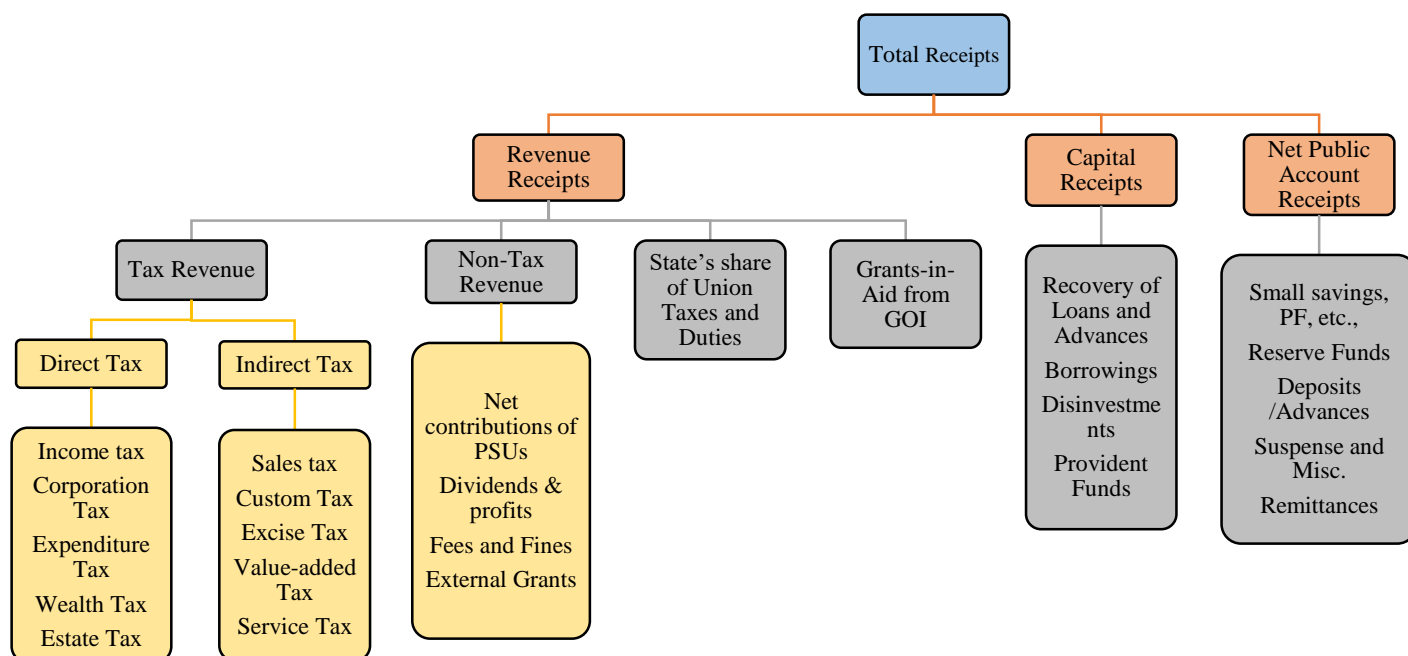


Figure 5- Receipts of the State Government

Table 1- Revenue Receipts (Transport Department of the State Government)

S. No.	Budget Code	Description
1	R0041001010002-00-01	Receipts From Issuance Of Smart Card Driving Licence
2	R0041001010004-00-03	Fee from Issuance of Fitness Certificate
3	R0041001010005-00-03	Fee to be collected for issuance of Driving License & Driving Schools

[3.2.3] Expenditure of resources

The state government is vested with bearing the responsibility of initiating expenditure within the framework of fiscal responsibility legislations, while ensuring at the same time that the ongoing fiscal correction and consolidation process of the state is not at the cost of expenditures directed towards the development of capital infrastructure and the social sector.

Revenue expenditure consists of all those expenditures of the government which does not result in the creation of physical or financial assets. It relates to those expenses made for the normal functioning of various government departments and services, interest payments on debt incurred by the government, and grants given to various institutions – even though some of these grants could be meant for the creation of assets.

Capital expenditure (Capex) is primarily a type of expenditure made for the creation of fixed infrastructure assets such as roads, buildings, etc. Capex needs in the state are being met by the means of budgetary support as well as extra-budgetary resources.

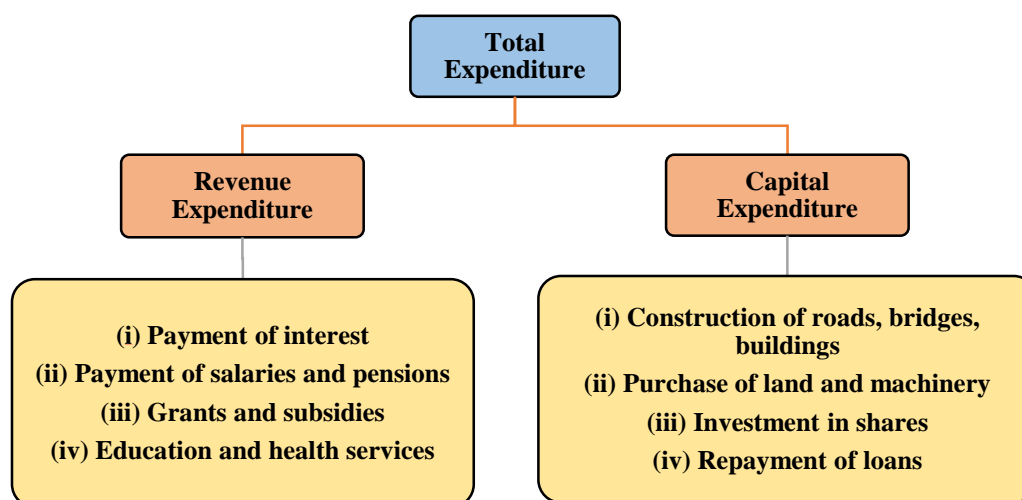


Figure 6- Expenditure of the State Government

[3.2.4] Scheme Expenditure

At present, there are three types of schemes being undertaken by various departments, viz. state schemes, central sector schemes, and centrally- sponsored schemes (CSS).

State Schemes

These schemes are meant for those sectors that belong to the state list, and they are funded entirely by the state government, like the *Har Ghar Nal Kaa Jal* Scheme.

Central Sector Schemes

These schemes are related to those sectors that are included in the union list, and they are funded entirely by the central government. The funds received under such schemes may be flowing in through either the Treasury mode or by way of a designated implementation agency mode.

Centrally- Sponsored schemes (CSS)

These schemes refer to ones which are jointly financed by the central and state governments, as per the funding ratio agreed upon by these two regimes. These schemes are generally designed and monitored by the different Ministries of the union government, while the corresponding state government departments are responsible for the implementation of the schemes at the field level. Presently, most CSSs follow the funding ratio of 60:40, shared in that order by the central and state governments. The *Pradhan Mantri Awaas Yojana* is one such example of a CSS.

[3.3] Financial Budgeting

[3.3.1] Budget Cycle

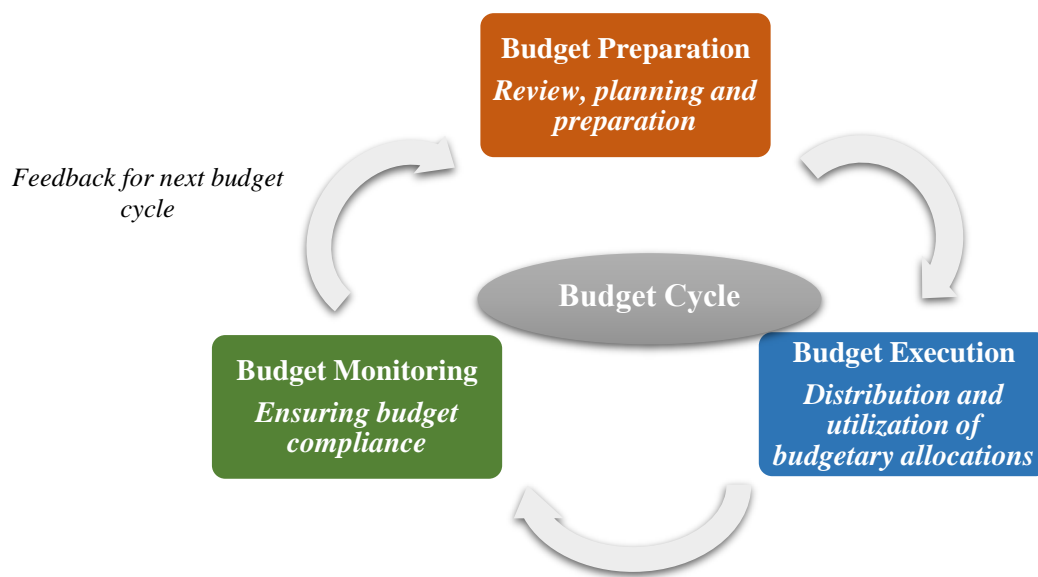


Figure 7- Budget Cycle

The budget cycle can be divided into three broad phases:-

I. Budget Preparation

This phase involves determining approximate and affordable levels of expenditure as well as how funds are to be spent. Outputs delivered are also measured in an effort to achieve the outcomes sought by the government.

II. Budget Execution

- Approval and grant of requests for re-appropriations that have been submitted by various state departments
- Consolidation and issuance of the Supplementary Budget

III. Budget Monitoring

This phase aims to ensure that the actual budget transactions are compliant with design of the budget. The documents of the budgetary process are subjected to an external audit conducted by the CAG. The audit process ensures that the delivery of services to the people by the government has been carried out with honesty and integrity and that the due process has been followed during the entire budget cycle.

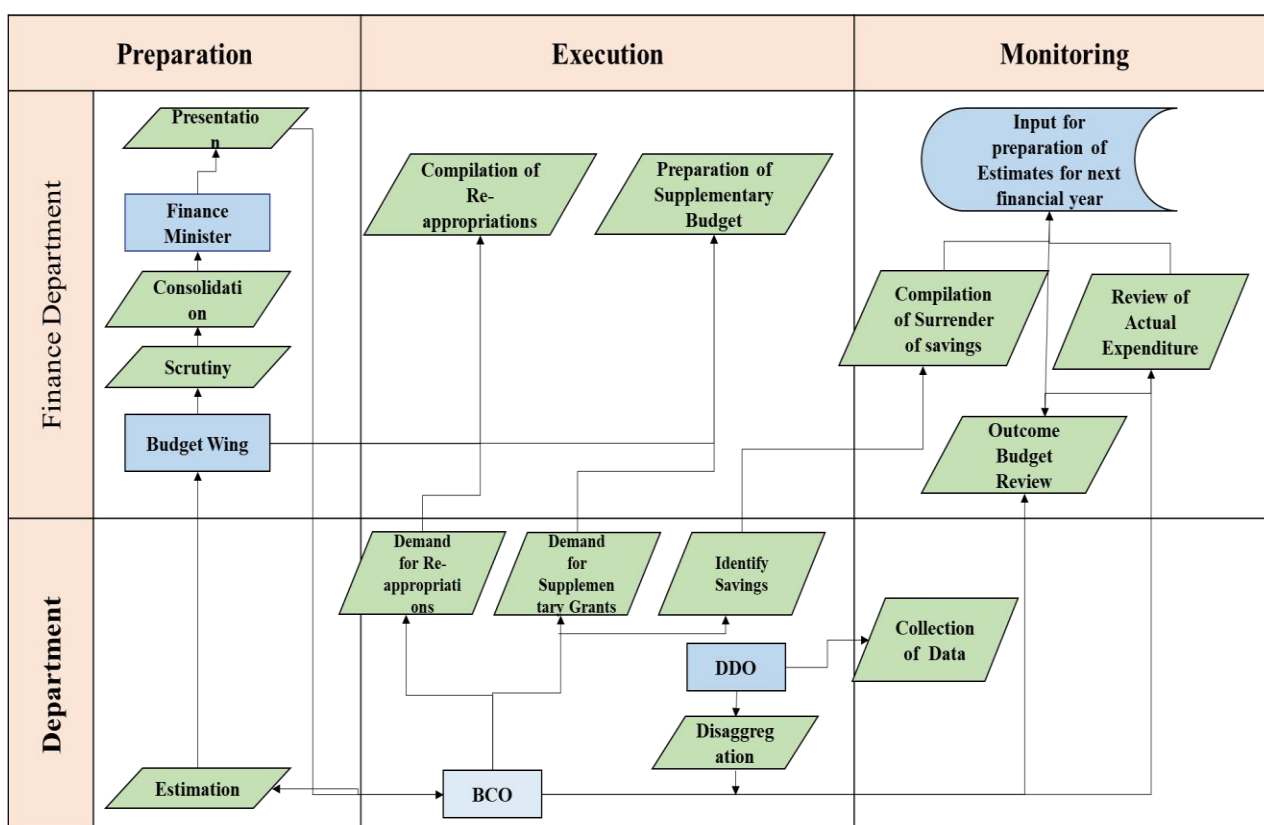


Figure 8- Activity Flowchart of Budget Cycle

[3.3.2] Budget Calendar

July to August	First Supplementary Statement of Expenditure depending upon the Assembly Programme (Appropriation Act related to the First Supplementary sent to all Controlling Officers/Departments and Accountant General)
1st Week of September	Issuance of Budget Circular and Distribution of Blank Budget Forms by the Finance Department to its Controlling Officer
October to November	First Supplementary Statement of Expenditure depending upon Assembly Programme (Appropriation Act related to first supplementary sent to all Controlling Officers/Departments and Accountant General)
November to December	Discussion on Budget Estimate proposed by the Controlling Officer of the Finance Department with Concerned Departments
November to January	Second Supplementary Statement depending upon the Assembly Programme (Appropriation Act related to Second Supplementary sent to all Controlling Officers/Departments and Accountant General)
February to March	Surrender of Savings by the Controlling Officers to the Finance Department
February to March	Annual Financial Statement Presentation and other Budget Books and Third Supplementary Statement of Expenditure to be laid before the Legislature (Appropriation Act related to Main Budget and Third Supplementary sent to all Controlling Officers/Departments and the Accountant General)
February to April	Distribution of Budget Books by the Finance Department to all Departments and Accountant General

[3.3.3] Classification System

Each division in the Consolidated Fund and Public Accounts is further divided into sectors, which may, in some cases, again be divided into sub-sectors and finally into the six tiers of accounting classification.

The number of classifications in the Detailed Demands for Grants is not allowed to go beyond the standard format of six tiers, as described below.

1. Major Head- 4 digits (Function)

Major heads are designated for each sector/sub-sector. Major heads broadly indicate, within each sector/sub-sector, a distinct function of the government such as education, medical, public health, agriculture, rural development, etc.

2. Sub-Major Head: 2 digits (Sub-Function)

Major heads are sub-divided into sub-major heads. Sub-major heads are opened for each major head to record those transactions which are of a distinct nature and are of sufficient importance to be recorded separately but at the same time, they are allied to the functions of that particular major head. For example, under the Major Head 'Education', the sub-major heads are Elementary Education, Secondary Education, University and Higher Education, etc.

3. Minor Head- 3 digits (Programme)

Sub-major heads are divided into minor heads. Minor heads correspond to programs or broad groups of programs that are being undertaken in a department. For example, under the sub-major head 'Elementary Education', the minor heads are direction and administration, government primary schools, inspection, etc.

4. Sub-Head : 2 digits (Scheme)

Sub-heads appear under the group minor-heads which indicate schemes undertaken under a programme represented by minor heads. In the case of non-plan expenditure, sub-heads also represent the administrative set up of the department. For example, under the minor head "Hospitals and Dispensaries", "District Headquarters Hospital" is a sub-head.

5. Object Head: 2 digits (Sub-Scheme)

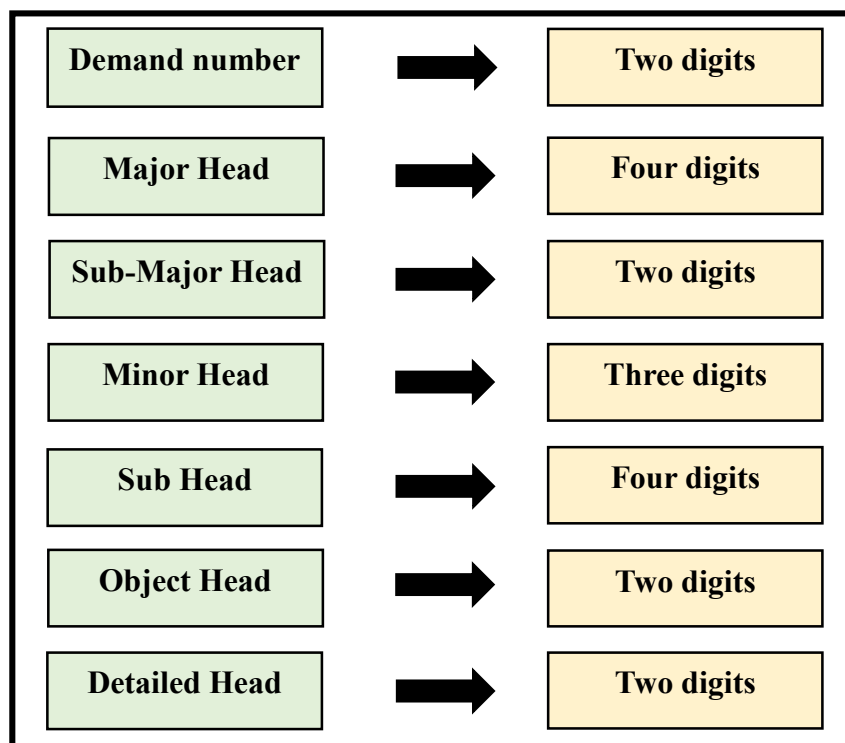
Sub-heads are further divided into object heads. Object heads denote specific items of expenditure like salaries, travel expenses, office expenses, etc.

6. Detailed Head: 2 digits

The object heads are further divided into detailed heads, which are the lowest units of classification of accounts. They give the break-up of detailed heads of account, wherever it might be necessary, for the purpose of expenditure control and monitoring. For example, salary expenditure can be broken down into pay, allowances, house rent allowance, dearness allowance, medical reimbursement, encashment of earned leave and travel concessions.

CODING PATTERN

The provisions of a budget are prepared in the form of a 19-digit Bill Code, whose structure can be grasped from the table below. After implementation of the Centralized Funds Management System (CFMS), the matching demand number has now been linked with the budget head fixed for each scheme. The structure of the final form of the Bill Code is as follows:-



Example of Coding Pattern

Demand No.	Major Head	Sub-Major Head	Minor Head	Sub-Head	Object Head	Detailed Head
↑ 19	↑ 2406	↑ 01	↑ 003	↑ 0001	↑ 13	04
Environment, Forest and Climate Change Department	Forestry and Wildlife	Forestry	Education and Training	For training, public relations and research	Office Expenditure	Electricity Charges

Major Heads: A budget is prepared taking into consideration revenue and capital accounts containing both receipt and expenditure heads, for which codes of the major heads are given as follows:-

S No.	Classification Head	First digit of the 4-digit Major Head code
1	Revenue Receipt	0 or 1
2	Revenue Expenditure	2 or 3
3	Capital Receipt	4000
4	Capital Outlay	4 or 5
5	Public debt	6001-6005
6	Loans and Advances	6075-7810
7	Contingency fund	8000
8	Public account	8001-8999

Sub-Head: Incorporating non-plan items from the financial year 2017-18, the budget is primarily classified into six sections, which can be discerned in the form of the first two digits of the 4-digit Sub-Head as follows:-

S No.	Classification Head	First 2 digits of the 4-digit Sub-Head Code
1	Establishment and Committed Expenditure	00 (as 0001,0020)
2	State-scheme	01 (as 0101,0123)
3	Central Share of Centrally-Sponsored Scheme	02 (as 0201,0218)
4	State Share of Centrally-Sponsored Scheme	03 (as 0301,0318)
5	Central sector scheme	04 (as 0401,0421)
6	State and central share of externally-sponsored scheme	05 (as 0501,0511)

Chapter- 4

Issue-based Budgeting

Issue-based budgeting can be seen as a type of policy innovation for bringing specific issues into the mainstream with the support of cross-cutting and cross-sectoral projects. The themes of issue-based budgeting can be divided into three streams: frameworks for green budgeting, gender budgeting, and child budgeting.

[4.1] Frameworks for Green Budgeting

Public spending and the instruments for raising revenue can have both huge beneficial and detrimental impact on the environment. This opinion is apart from regulatory regimes, such as the Environmental Impact Assessment (EIA) appraisal process of the environment, for *ex-ante* identification of the environmental impact of projects, programs, and policies, as well as monitoring and enforcement of environmental standards. While environmental regulation is the principal responsibility of environmental Ministries, their *locus standi* position in the budgetary process is weak as budgetary allocation for environmental regulation is negligible and hence, it is essential that the subject of environment be included in the mainstream of all Ministries, departments and sectors. A growing body of literature views ‘green budgeting’ as a mainstreaming tool (Bova 2021; GOB 2021; Petrie 2021; PSCST-TERI 2014; Russel and Benson 2014; TERI 2020; Wilkinson et al 2008). The OECD framework for green budgeting lists four key “building-blocks” to help ensure that the larger picture of the budgeting process is sustained and remains effective for medium and long-term strategic and fiscal planning, budgeting tools, accountability and transparency, and enables a healthy budgeting environment. TERI has facilitated conversations involving green budgeting in India in the states of Punjab and Bihar. The Coalition of Finance Ministers for Climate Action was launched in December of 2018, under the leadership of Finland and Chile, and with support of the World Bank’s Climate Action Peer Exchange (CAPE). Principle # 4 of its founding principles (the Helsinki Principles) requires the government to ‘take climate change into account in macro-economic policy, fiscal planning, budgeting, public investment management, and procurement practices’. The Secretariat for Public Expenditure and Financial Accountability (PEFA) has recently produced a module for the assessment of climate-related public financial management. This module is intended to provide a diagnostic tool for those countries and administrations which are willing to make their public finances more sensitive to the issue of climate change (PEFA 2020). However, unlike PEFA, green budgeting is a tool for planning and pro-actively giving priority to advanced environmental protection,

climate action and sustainability. In India, till date, Bihar is the only state to have prepared a green budget (GOB 2021, 2022).

[4.2] Gender Budgeting

Gender budgeting is seen as a powerful tool for achieving the mainstreaming of gender issues so as to ensure that the benefits of developmental activities for which budget allocation is made reach women. This tool is apart from the enforceable laws and regulations for protection and enforcement of women's rights that are described in the mandate of several Ministries and other arms of the government. Several advances have been made in gender budgeting in Asia and Europe in terms of policy uptake and practices and this is well documented in literature (Chakraborty 2016; Jhamb et al 2013; Lahiri et al 2002; O-Hagan 2018; O-Hagan and Klatzer 2018; Quinn 2016). In India, the Expenditure Division of the Ministry of Finance has been issuing a note on gender budgeting since 2005-06 as part of the Budget Circular every year. In the Union Budget, Statement # 13 is about 'Gender Budgets' (MOF 2022). This GB Statement comprises two parts- Part A and Part B. Part A deals with women-specific schemes - those ones which have 100% allocation for women - while Part B talks about pro-women schemes - those ones where at least 30% of the allocation is for women. Gender budgeting in India is not only practiced at the national level but also at the sub-national level. So, is gender budgeting actually making an impact? One study on gender budgeting in India highlights the fact that gender budgeting has resulted in the mainstreaming of gender issues in the budgeting processes of governments in India as even Ministries like Petroleum and Natural Gas; Science and Technology; and Road Transport and Highways, whose activities may *prima facie* appear to have little adverse gender impact, have developed initiatives to contribute to gender equity in terms of development of women (Chakraborty 2016). An analytical review of literature on gender budgeting highlights the fact that most studies look at the *ex-ante* stages of gender budgeting, whereas less is known about the concurrent and *ex-post* stages (Polzer, Nolte & Seiwald, 2021).

[4.3] Child Budgeting

In similar fashion to issue-based mainstreaming tools, 'child budgeting' is an attempt to disaggregate the government's budget for estimating how much the government intends to spend (or has spent) on addressing the needs of children. The rationale of child budgeting is premised on the argument that it is important to increase expenditure so as to promote child rights (CBGA-UNICEF undated). There is evidence that child budgeting is being practiced by governments at the national and sub-national levels all over the world (Jacob 2020; Mathew 2007; Muchabaiwa 2010). In India, child budgeting is used as a

strategic planning tool by the Department of Women and Child Development at the national level for self-assessment purposes (Matthew 2007). Child budgeting is being practiced at the sub-national level in states such as Orissa and Bihar (GOB 2019; GOO 2020). Statement # 12 in the Union Budget talks about ‘Allocations for the Welfare of Children’ (MOF 2022). Child budgeting is seen as a public finance management strategy. By engaging in this exercise, the government’s positive attitude towards addressing the needs and realization of the rights of children gets endorsed.

[4.4] Gaps

While there is ample literature on issue-based budgeting, the practice of green budgeting is not as prevalent as that of gender budgeting and child budgeting. In most cases, green budgeting is still in a nascent phase or is practiced more as a post-budget exercise.

Chapter- 5

Process and Methodology for Green Budgeting

[5.1] Rationale

While environmental regulation is the principal responsibility of environmental Ministries, their *locus standi* position in the budgetary process is weak as budgetary allocation for them is insignificant and hence, it is essential that environmental sustainability initiatives are mainstreamed in all Ministries, departments, and sectors. Mainstreaming of such initiatives will help shape positive attitudes and commitments of various department officials and actors. Since the annual budget process involves departments from various sectors, the Finance Department can lead the process of green budgeting in co-ordination with environmental departments and seek inputs from various other departments for identifying environmental sustainability components in existing schemes. This is expected to be an accounting exercise initially with a gross expenditure statement to be prepared annually. It is hoped that this will lead to introspections by various departments on where they stand and how much resources have been allocated. The mapping of themes, activities and SDGs will enable the government to identify gaps in existing approaches wherein they can seek to identify other sources of funding from domestic, international as well as private sources. In the long-run, states can also evaluate the impact after such schemes have been implemented.

Broadly speaking, green budgeting can provide deep insights and pointers to policy-makers and other stake-holders about environmental sustainability initiatives, availability of resources, and delivery reforms. Further branching of the state's general budget so as to create a green budget is important for mapping public funds flow to environment-centric schemes.

The green budgeting process can enable mapping of public fund flows to environment-centric schemes.

1. Assessing environmental focus of budgets for raising awareness, and informed debate and discussion on progress towards environment-related universal sustainable development goals and climate action.
2. Mapping of schemes and expenditure with an environmental lens (*climate change, environmental pollution, bio-diversity, natural resources, and eco-system services*) for assessing their zeal towards the delivery of national and international commitments and identifying gaps.
3. Focus on aggregation of allocations and expenditures on environment-centric schemes to analyze gaps in implementation.

The green budgeting process can act as an official policy tool.

1. To embed environmental goals into the budgeting process and ensure that these get due consideration by way of planning, resource allocation and proper co-ordination.
2. To assess and promote expenditure, revenue, and environmental policy alignment.
3. For a deep analysis of interventions so as to identify gaps in terms of focus and activities.
4. For mainstreaming of environmental goals in the budgetary process by identifying areas of inter-departmental synergies and co-ordination opportunities.

The green budgeting process can act as a tool for engendering policy and market coherence in order to achieve sustainable development.

1. A green budget can encourage process and product innovations should there be resources available for research and development.
2. It can give signals to markets apart from encouraging green products in the markets and promote sustainable consumption.
3. It will provide policy coherence and better inter-agency/ inter-departmental co-ordination.

Green budgeting can systematically enable the examination and identification of both existing and proposed fiscal as well as economic policy measures incorporated in the budgeting processes. Also, one can gauge the contribution of these measures for attaining environment-related sustainable development goals. Thus, an evidence-based assessment of the environmental impact of budgetary and fiscal policies is made possible. An informed discussion and debate on the efficacy of government actions with respect to its national and international commitments can take place now.

[5.2] Definition

Green budgeting is a budgetary policy-making tool that can help in the systematic mapping and tracking of schemes, outlays, and expenditures. This, in turn, can support co-ordinated policy design and identification of occasional as well as continuous financial needs to achieve green objectives, i.e., those relating to the climate and environmental dimensions.

This approach can transform budgeting exercises to becoming an effective co-ordination mechanism with due consideration of economic, social, and environmental aspects for bringing about sustainable

development. It does not change the existing policies by itself, but it provides decision-makers with a clearer understanding of the overall environmental and climatic impact of budgeting choices. It brings evidence together in a systematic and co-ordinated manner so as to allow more informed decision-making on how to optimize the raising of revenue as well as resource allocation in the budget with the aim of fulfilling national and international commitments.

‘Green Budgeting’ is a tool that enables examining, identifying, and mapping existing measures systematically in budgeting activities along with the contribution of these measures towards the attainment of environmental (green) targets and sustainable development goals (SDGs). Keeping in mind the state government budget, green budgeting can be defined as a process wherein

“Every year, various government agencies (Departments/ Directorates/ Boards/ Councils/ Commissions) contribute to the preparation of the Green Budget in order to specify schemes containing environmental sustainability components. These agencies also estimate the quantum of public expenditure to be made in the state budget”.

A representation of green budgeting is provided below.

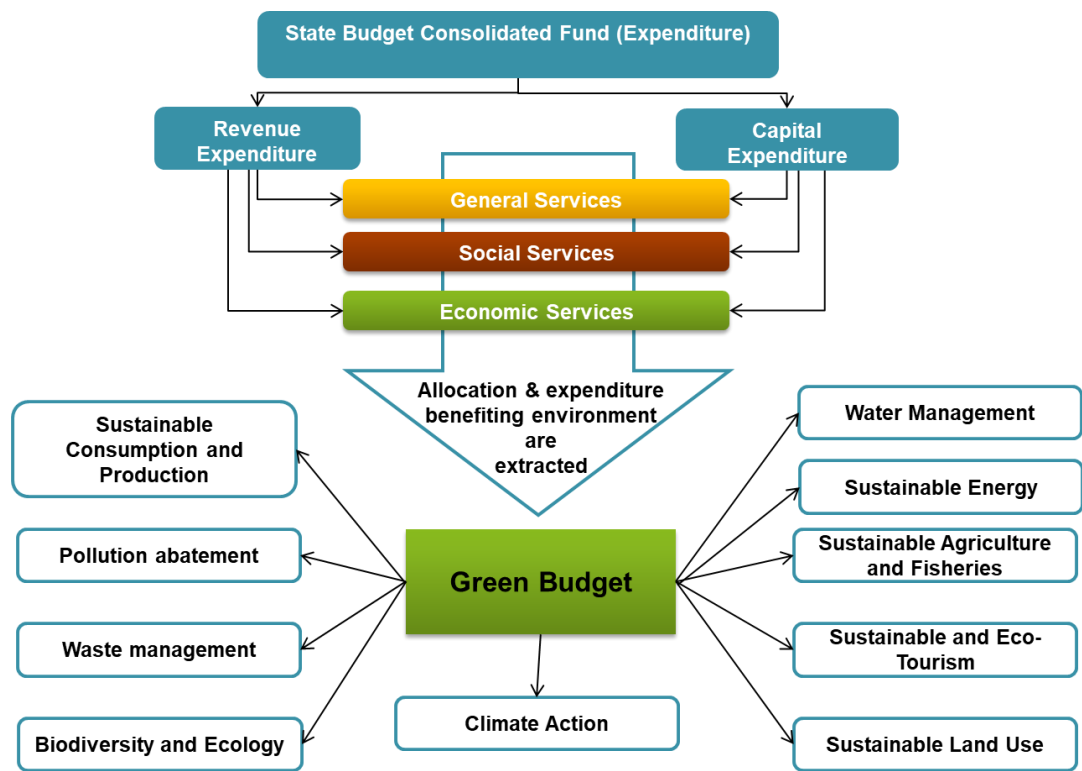


Figure 9: Green Budget Framework

[5.3] Objectives

The need for realizing sustainable development goals and addressing the threat of climate change, biodiversity loss, and other kinds of environmental degradation requires urgent action. Concrete, coherent, and systematic planning approaches that strengthen institutions and budgets are also required. All of these are must-have tools in this context but none by itself is good enough to make a significant and lasting difference. Therefore, there is a need for changes in the mindset by making use of dialogues on the subject of environmental sustainability in a multi-stakeholder setting such as the budget-making process. The four objectives of green budgeting are defined as follows:-

Objective 1: Strengthening the inter-departmental planning processes for a pro-active and stronger response to environmental issues over the short as well as long-term.

Objective 2: Enhancing policy coherence for meeting sub-state, state, national and international commitments with the help of mainstreaming of both climate action and sustainable development. This could be brought about by raising awareness and strengthening the innovative capabilities of different departments/ bodies while they bring on existing programmes.

Objective 3: Developing a framework that will enable assessment of the state's performance with respect to various environmental targets/commitments and identification of areas of improvement. This framework will be created subsequently by means of resource allocation and mobilization.

Objective 4: Sending policy signals for making initiatives and markets more responsive to the objective of sustainable development and climate action in the long-term.

Regarding these aforesaid ends, green budgeting has been envisioned to be built on the following six pillars:-

Pillar 1: Mainstreaming for environmental sustainability

Pillar 2: Resource allocation for environmental sustainability

Pillar 3: Planning and coordination for environmental sustainability

Pillar 4: Evaluation and monitoring for environmental sustainability

Pillar 5: Transparency and accountability for environmental sustainability

Pillar 6: Policy signals for greening initiatives

[5.4] Process

The process for green budgeting draws on the experience of gender budgeting in India. Considering the practice of multiple issue-based budgeting in India such as gender and child-budgeting in India, there is a need for a framework that will help in consolidating all these issue-based budgeting practices. Sustainable Development Goals (SDGs) can be used as a broader framework which can be supplemented and complemented by state and national goals on social, economic, and environmental issues over time. Accordingly, the following step-wise method is being proposed. This exercise has been devised by relying on bottoms-up inputs, with the information coming from various departments of the government.

The Finance Department of the Bihar government facilitates data collection from relevant departments. The format of the green budget is attached with the main budget format and communicated, with guidelines, to all the Estimating Officers of the different departments. Information about Detailed Demands for Grants (DDG) was used as a base for the identification of environment-promoting schemes. Guidelines for each of the schemes were reviewed in detail to identify activities or components that are directly or indirectly relevant for safeguarding of the environment.

After selecting a scheme as being environment-promoting, the green budget format requires that the Estimating Officers capture allocations made for each scheme as per the Budget Estimate for the ensuing year, Revised Estimate for the current fiscal year, and Actual Expenditure incurred in the previous fiscal year. To avoid double-counting of expenditure figures and to minimize errors, the ‘tagging and tracking’ method has been adopted. Each scheme is codified through a special code that remains the same over the years. The government budget document DDG consists of all the schemes along with their specific codes. For each scheme, budget codes for the major head, sub-major head, and minor head along with the scheme code is to be recorded for easy tracking of the scheme and department-wise analysis of expenditure. Finally, the green budget document is presented as a separate document before the Legislative Assembly by the government.

The standard template for preparing the green budget statement is given in Annexure 1.

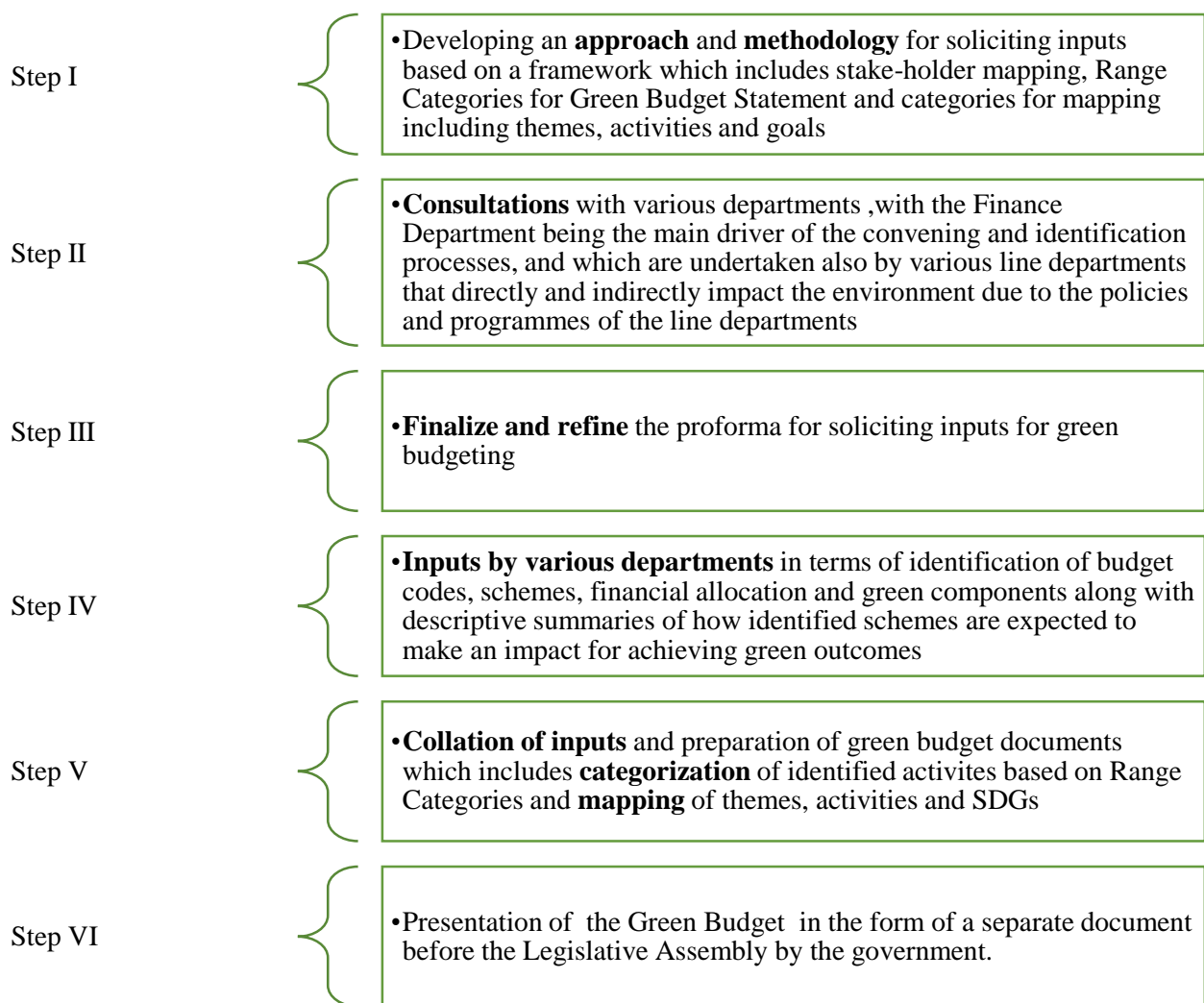


Figure 10: Step-wise method for green budgeting that will be used in this initiative

5. बजटशीर्ष/उप शीर्ष		(राशि लाख रुपये में)	
एवं निधि की उपलब्धता :			
बजट शीर्ष		उपबधित राशि	प्रस्तावित राशि
मुख्यशीर्ष - 2401 फसल कृषि कर्म, उपमुख्यशीर्ष - 00, लघु शीर्ष 104-कृषि फार्म, उपशीर्ष - 0106 कृषि नवीनता में प्रोत्साहन, विपन्न कोड 01-2401001040106, विषय शीर्ष- 01-2401.00.104.0106-कृषि नवीनता में प्रोत्साहन		1412.43	1156.937
मुख्यशीर्ष - 2401 फसल कृषि कर्म, उपमुख्यशीर्ष - 00, लघु शीर्ष 789 अनुसूचित जाति/प्रादेशिक क्षेत्रों के लिए विशेष ध्यान योजना, उपशीर्ष - 0147 कृषि नवीनता में प्रोत्साहन, विषय कोड 01-2401007890147, विषय शीर्ष- 01-2401.00.789.147-कृषि नवीनता में प्रोत्साहन		272.27	223.024
मुख्यशीर्ष - 2401 फसल कृषि कर्म, उपमुख्यशीर्ष - 00, लघु शीर्ष 796 जनजातीय क्षेत्र विकास योजना, उपशीर्ष - 0169 कृषि नवीनता में प्रोत्साहन, विपन्न कोड 01-2401007960169, विषय शीर्ष- 01-2401.00.796.0169-कृषि नवीनता में प्रोत्साहन		17.02	13.939
योग		1701.72	1393.900

Figure 11- Budget Head of the State Scheme (Climate Smart Agriculture in Bihar)

मुख्य शीर्ष 2401 - फसल कृषि-कर्म

उपमुख्य शीर्ष 00

लघु शीर्ष 104-कृषि फार्म

उपशीर्ष 0106-कृषि नवीनता में प्रोत्साहन

विपत्र कोड 01-2401001040106

(राशि रुपये में)

विषय शीर्ष	वास्तविकी	आय-व्ययक अनुमान	पुनरीक्षित अनुमान	आय-व्ययक अनुमान
	2017-2018	2018-2019	2018-2019	2019-2020
27-लघु कार्य				
0106-27-01 लघु कार्य	18,01,21,000	33,20,00,000	8,30,00,000	14,12,43,000
योग- 01-2401.00.104.0106.27 -लघु कार्य	18,01,21,000	33,20,00,000	8,30,00,000	14,12,43,000
योग- 01-2401.00.104.0106 -कृषि नवीनता में प्रोत्साहन	18,01,21,000	33,20,00,000	8,30,00,000	14,12,43,000
योग-लघु शीर्ष- 01-2401.00.104-कृषि फार्म	18,01,21,000	33,20,00,000	8,30,00,000	14,12,43,000

मुख्य शीर्ष 2401 - फसल कृषि-कर्म

उपमुख्य शीर्ष 00

लघु शीर्ष 789-अनुसूचित जातियों के लिए विशेष घटक योजना

उपशीर्ष 0147-कृषि नवीनता में प्रोत्साहन

विपत्र कोड 01-2401007890147

(राशि रुपये में)

विषय शीर्ष	वास्तविकी	आय-व्यय अनुमान	पुनरीक्षित अनुमान	आय-व्यय अनुमान
	2017-2018	2018-2019	2018-2019	2019-2020
27-लघु कार्य				
0147-27-01 लघु कार्य	3,47,22,000	6,40,00,000	1,60,00,000	2,72,27,000
योग- 01-2401.00.789.0147.27 -लघु कार्य	3,47,22,000	6,40,00,000	1,60,00,000	2,72,27,000
योग- 01-2401.00.789.0147 -कृषि नवीनता में प्रोत्साहन	3,47,22,000	6,40,00,000	1,60,00,000	2,72,27,000
योग-लघु शीर्ष- 01-2401.00.789-अनुसूचित जातियों के लिए विशेष घटक योजना	53,96,14,259	1,56,02,26,000	1,88,14,21,000	1,91,65,24,000

मुख्य शीर्ष 2401 - फसल कृषि-कर्म

उपमुख्य शीर्ष 00

लघु शीर्ष 796-जनजातीय क्षेत्र उप योजना

उपशीर्ष 0169-कृषि नवीनता में प्रोत्साहन

विपत्र कोड 01-2401007960169

(राशि रुपये में)

विषय शीर्ष	वास्तविकी	आय-व्ययक अनुमान	पुनरीक्षित अनुमान	आय-व्ययक अनुमान
	2017-2018	2018-2019	2018-2019	2019-2020
27-लघु कार्य				
0169-27-01 लघु कार्य	21,70,000	40,00,000	10,00,000	17,02,000
योग- 01-2401.00.796.0169.27 -लघु कार्य	21,70,000	40,00,000	10,00,000	17,02,000
योग- 01-2401.00.796.0169 -कृषि नवीनता में प्रोत्साहन	21,70,000	40,00,000	10,00,000	17,02,000
योग-लघु शीर्ष- 01-2401.00.796-जनजातीय क्षेत्र उप योजना	2,40,58,782	9,75,15,000	11,75,87,000	11,97,84,000

Figure 12- Grant-wise Expenditure under the State Scheme (Climate Smart Agriculture in Bihar)

Each scheme consists of various components under a single budget code. It is according to this budget code that sums of money are allocated. The table below presents components of the Climate Smart Agricultural Scheme of the Agriculture Department of Bihar. Based on these components, the relevant environmental head gets tagged for green budget activities.

Table 2 - Head-wise Target of Climate Smart Agricultural Scheme under the Agricultural Road map in Bihar

S No.	Head
1	Baseline Survey and Village Development Plan
2	Capacity/Skill Development, Training Material
3	Machinery required for farmers' participatory activities
4	Operational cost of farmers' participatory demonstrations
5	Capital items for strategic research (instruments, implements, machinery, etc.)
6	Workshops; field visits; travelling to seminars, stakeholder meets; travel (national and international)
7	Personnel/salary/consultancy (national and international)
8	POI/ Hired Vehicles

[5.5] Methodology for range categories

Based on percentage contribution of the schemes, a proportionate marker methodology was suggested. This marker is based on the Rio Marker used by OECD that has been subsequently mapped to themes, activities and SDGs. Rio markers were used to provide guidance for supporting activity-level screening and marking. These Rio markers have also been chosen in the case of sector by sector climate change mitigation and adaptation (OECD, n.d.). The green budget statement should have these six range categories as described in Table 3. The classification of various schemes and its components is not good enough and to assess budgets, a mapping exercise involving themes, activities and SDGs is suggested.

Table 3 : Six range categories for green budget statement

Green Significance	Complete (100%)	Very High (75% - 90%)	High (75% - 50%)	Medium (25% - 50%)	Low (5% - 25%)	Marginal (1% - 5%)
Range	1	2	3	4	5	6
Definitions	The principal intention of the scheme or programme will be to accomplish one of the nationally/sub-nationally stated environment-promoting objectives.	The principal intent of the scheme or programme will be to accomplish at least one of the nationally/sub-nationally intended objectives.	The partial intent of the scheme or programme will be to accomplish at least one of the stated environment-promoting objectives.	The partial intent of the scheme will be to accomplish the intended objectives of the scheme or programme without compromising on the environmental condition.	No stated intent but the scheme or programme will have indirect but positive environmental impact.	No explicit environmental target, or measurable intent or insufficient information to determine attribution but the scheme or program seems to be positive with respect to the green objectives.

[5.6] Mapping themes, activities, and SDGs

Mapping of themes, activities and SDGs will help us to be aware of the state of play of currently-identified schemes as well as identify gaps. Mapping should take place for themes, activities, and SDGs. Since public policies and programs, as reflected in the budget line-items, usually address several policy objectives that cannot be disentangled from each other, schemes can fall under multiple categories like themes, activities, and SDGs.

The first critical step is to identify what the environment-promoting activities are. Based on interactions, ten themes that were relatable to the various departments could be identified (Table 4).

Table 4 - Ten themes to be considered for green budgeting

#	Theme	Description	Example
1.	Pollution Abatement	Budget activity should be related to the regulation of pollution (such as air and	Pollution control and monitoring practices; switching

		water) and improvement of air and water quality	to cleaner transport
2.	Waste Management	Budget activity should be related to effectively managing waste (such as municipal, industrial, agricultural or chemical) so that it leads to a cleaner environment	Common effluent treatment plant, waste recycling facility, waste-water treatment
3.	Bio-diversity and Ecology	Budget activity should be related to preservation and conservation of forests, wildlife, land, natural resources, and encouragement of indigenous activities	Wildlife conservation and afforestation programs
4.	Climate Action	Budget activity should be related to either adapting to or mitigating the impact of climate change	Climate change adaptation and mitigation
5.	Sustainable Land Use	Budget activity should be related to sustainable and environment-friendly use of land, either in a rural or urban context.	Planting trees along the roadside; agro-forestry
6.	Sustainable Agriculture and Fisheries	Budget activity should be related to sustainable practices in traditional agricultural activities and allied sectors such as fisheries or horticulture	Organic farming; integrated farming systems
7.	Sustainable Eco-Tourism	Budget activity should be related to sustainable and eco-friendly practices to promote tourism as well as ensuring sustainable tourist activities	Establishing Zoo safaris; constructing toilets for tourists
8.	Water Management	Budget activity should be related to the efficient and sustainable use of water, ensuring access to clean water for all purposes	Renovation of wells; rainwater harvesting
9.	Sustainable Energy	Budget activity should be related to the use and promotion of clean energy sources such as solar energy.	Installation of solar panels; renewable energy
10.	Sustainable Consumption and Production	Budget activity should be related to responsible consumption and production practices based on reduction, reuse, and recycling to avoid wastage.	Construction of roads using waste plastic

The next step is to try and understand as well as map initiatives being undertaken by the state government according to the type of activity. This can help us to understand policy level interventions and

developments. Recommendations can be made in terms of what new initiatives are needed and in which areas activities can be further strengthened. Twelve types of activities were identified (Table 5)

Table 5 - Types of activities to be used for mapping

#	Activity Category	Description	Example
1.	Program implementation	Any budget-related activity which contributes directly to on-ground implementation resulting in physical outcomes	Asset creation using public works
2.	Institutional capacity-building	Any budget-related activity which contributes to enhancing the capacity of the institutional processes	Training and capacity-building of departments to flawlessly carry out integration of the subject of environment in planning and implementation
3.	Skilling	Any budget-related activity which contributes to increasing the capacity and expertise of human capital for skillful work	Training and skilling of beneficiaries
4.	Technology and infrastructure	Any budget-related activity which contributes to deployment of clean/ environmental technologies and sustainable infrastructure	Clean technology deployment (Common-effluent treatment plant, recycling unit, solar rooftop, green building)
5.	Education and awareness	Any budget-related activity which contributes to increasing awareness and knowledge by utilizing formal education and other information/ communication channels	IEC and formal education curriculum
6.	Regulation and enforcement	Any budget-related activity which contributes to regulating and enforcing various Acts, rules, and policy notifications	Pollution control norms, waste management norms, bans
7.	Subsidies	Any budget-related activity which contributes to incentivizing environmentally sustainable activities	Subsidies for renewable energy technologies
8.	Risk management	Any budget-related activity which contributes to mitigating risks related to adoption of environmental/ clean energy initiatives or risks arising from	Crop insurance, partial risk guarantee

		environmental externalities, including climatic extremes	
9.	Information instruments	Any budget-related activity which contributes to informed decisions based on information about environmental parameters of goods and services	Eco-labels, standards
10.	Research and development	Any budget-related activity which contributes to developing technologies, innovations, and knowledge in the domain of the Sciences, Applied Sciences, Social Sciences and inter-disciplinary approaches	Support agricultural universities and KVKs
11.	Sustainable public procurement	Any budget-related activity which contributes to purchase of products and goods and provides markets to promote environment-friendly goods and services	Bulk scheme for procuring LEDs and energy efficient appliances
12.	Investment	Any budget-related activity which contributes to opportunities that can potentially generate economic returns in terms of revenue or profits	Metro Rail

SDG mapping shows how government initiatives approach the attainment of Sustainable Development Goals (SDGs). Mapping helps us to comprehensively understand how policies relate to the SDG framework by mapping policy documents with the SDGs and targets after employing specific keywords. It can thereby strengthen the government's capacity to design, implement and monitor coherent and integrated policies for sustainable development. In order to assist the government in mapping schemes associated with SDGs, government departments can take the aid of tools to support decisions, such as National Indicator Framework by MOSPI and SDG Index by NITI Aayog.

The bottoms-up mapping exercise based on information given by the different departments is described below. For Bihar, 12 SDGs were identified as being environment-related. Table 6 maps the 12 SDGs with the 19 departments which provided inputs for green budgeting.

Table 6 - Example of SDG mapping for various departments

#	Department	SDGs
1.	Agriculture Department	  
2.	Animal and Fisheries Resources Department	    

3.	Building Construction Department	6	6	7	9	11	12	13	15
4.	Education Department	4	6	7	9	13	15		
5.	Energy Department	7	13						
6.	Environment, Forest & Climate Change Department	2	8	9	11	13	14	15	
7.	Health Department	6							
8.	Industries Department	6	9	12					
9.	Information and Public Relations Department	6	13	15					
10.	Minor Water Resources Department	2	6						
11.	Public Health and Engineering Department	6							
12.	Road Construction Department	13	15						
13.	Rural Development Department	5	6	8	13	15			
14.	Rural Works Department	12	13	15					
15.	Sugarcane Industries Department	2	6						
16.	Tourism Department	6	11	12	13				
17.	Transport Department	11	13						
18.	Urban Development Department	6	7	9	11	12	13	15	
19.	Water Resources Department	2	6						

[5.7] Structure of Green Budget Statement

There should be four substantive components of this budget.

The first component will include all identified department-wise schemes and activities along with their objectives which have direct or indirect relevance to the green movement.

The second component will comprise department-wise mapping of the green budget, based on its environmental sustainability relevance and this mapping will be for budgetary allocation, activities and SDGs.

The third component will be a conclusion of the entire statement, with special reference to the estimated budget vs. actual budget in the current and next financial year. This would also include a statistical comparison with total outlay of the budget, GSDP, and other contributions featured in the budget as compared to the green budget. Figure 13 presents the structure of the green budget and this should help in getting to know the major framework that should be followed while preparing the green budget.

The fourth component, to be presented as the Annexure, features detailed tables of proposed activities or plans listed department-wise for the upcoming financial year, after considering budgetary range categories based on their degree of relevance with respect to environmental sustainability.

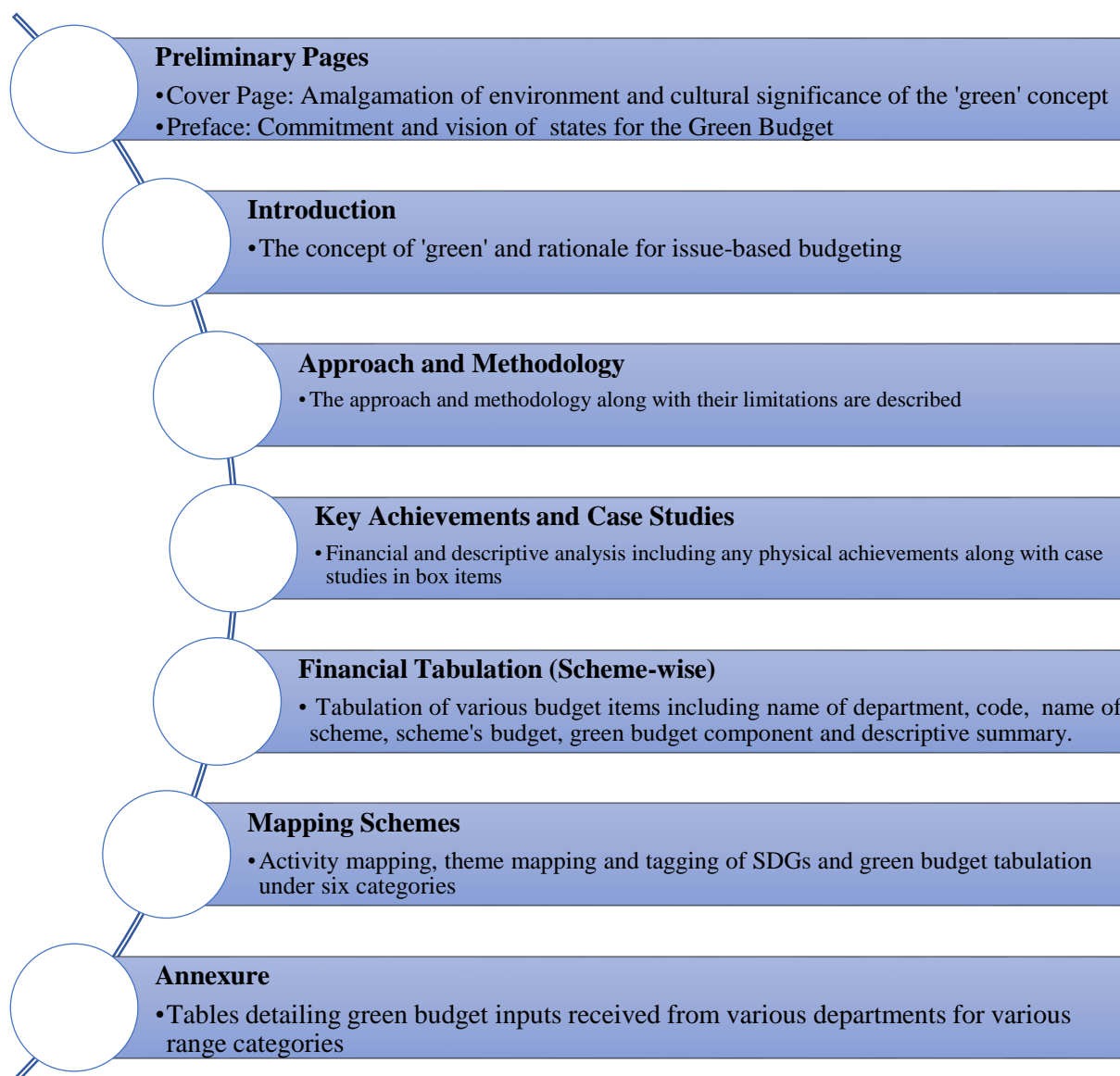


Figure 13 - Layout of the Green Budget Report

[5.8] Limitations

Green budgeting, at first glance, seeks to serve as an accounting tool for reporting environmentally-beneficial and environment-promoting expenditures apart from policy actions that can help inform stakeholders about which of the various government departments spend money on what types of environment-promoting activities, how much do they spend, and for which aspect of environment preservation, etc. do they spend it on. It is important to flag the limitations of the report here.

1. An analysis of the budget expenditures is not sufficient to gauge the budget's attentiveness to meeting national/ international environmental goals/commitments.
2. Analysis of only positive expenditures does not tell the full story.
3. Environmental regulations are not included in the scope of the budget.
4. A large part of the government expenditure may be only for stimulating private sector expenditure.
5. The green budget does not evaluate the efficiency of environmental expenditures.

The limitations, however, cannot belittle the advantages of such an exercise. This green budgeting exercise has the potential to bring together various work-streams, like climate change, bio-diversity, sustainable energy, sustainable urbanization, responsible consumption and production, eco-systems, environmental policy, budgeting and taxation policy, apart from inclusive sustainable growth. Definitions that have been agreed upon along with methodologies can help support green budgeting at national and sub-national levels. This can help improve the synergy and co-ordination between national and sub-national policy designs. This can also help meet the country's international reporting obligations along with serving as a feedback mechanism for existing green initiatives.

Chapter- 6

Recommendations and the Way Forward

The green budgeting process is a means and not an end. A green budget should also be considered as an exploratory tool to help plan, design and co-ordinate all possible areas of synergy. The initial phase of green budgeting with respect to policy innovation may appear more of any accounting exercise but the impact of various departments introspecting about what components of their schemes is contributing to environmental preservation is an important step forward towards more systematic and transformative budgeting as well as a horizontal integration of climate action with sustainable development.

- The state of Bihar should continue to regularly undertake the exercise of preparing a green budget statement.
- As the process and understanding of various environmental issues are internalized and assimilated in different departments over the due course of time, the budget process will also evolve subsequently and a clearer delineation of budget heads will emerge.
- In future, green budgeting activities would need to be strengthened by further boosting up of capacity-building programmes for officials from various departments. This will enable them to make better plans, identify and map areas where the environment and SDGs can be effectively factored in while dealing with the various schemes and programmes.
- Moreover, a long-term tracking system can be developed which will enable officials to track different kinds of expenditure. Subsequently, this tracking system can be tagged to SDGs to help identify gaps. For addressing these gaps, the government can develop a plan to mobilize resources from the state finances, central finances, private and international finance.
- A peer-reviewed mechanism can be instituted by forming an expert committee consisting of representatives from research organizations and universities who can evaluate and provide inputs to the process of green budgeting.
- Further evolution of green budgets in subsequent years can also help in the materialization of various aspects of assessment of programmes, net budgeting, other fiscal policy instruments, and financial planning.

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Annexure: Standard template/ Pro forma for preparing the green budget statement

Green Budget Statement _____Department Financial Year _____													
Sl. No.	Budget Code	Program / Scheme (Sub-Head)	Budget Details (Rs. in lakhs)						Key Objective of Programme/ Scheme	Green Significance of Programme/ Scheme	Environment Sustainability Theme	SDG*	Activity Category*
			FY (previous year)				FY (current year)						
			Budget Estimate	Green Budget Estimate	Budget Actuals	Green Budget Actuals	Budget Estimate	Green Budget Estimate					
1	2	3	4	5	6	7	8	9	10	11	12	13	14

*This can be introduced.