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Research Report

On

**Fiscal Effects of ‘Shakti Scheme’ in the Government of
Karnataka**

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Research Fellow

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Certificate

This report titled "Fiscal Effects of 'Shakti Scheme' in the Government of Karnataka" is a report on the study taken up at the Fiscal Policy Institute (FPI) in 2023-24.

The report is prepared by Dr. Anusha Sangondimath, Research Fellow at FPI under the mentorship of Dr. M. R Narayana, Consultant (Academic and Research) and after consultation with Research Advisory Committee Members Dr. A Narayana, Professor, School of Policy and Governance, Azim Premji University, Bengaluru and Shri. K. Nitish, IAS, Deputy Secretary (B&R), Finance Department, Government of Karnataka.

All opinions and conclusions expressed in this report are of the Research Fellow and the usual disclaimer applies.



Uma Mahadevan, IAS
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Executive Summary

In the present scenario, women's empowerment and the promotion of women's rights are gaining global significance. Women's empowerment refers to providing women with the rights and capabilities of making their own choices and decisions in all walks of life independently for themselves and their families. The role of women in the development of the economy is being highlighted everywhere. As the ideology of women's empowerment gains importance, governments are also bringing in policies and schemes, which mainly have the objective of empowering women. One such scheme is the Karnataka Government's Shakti scheme, which offers free bus rides to all eligible beneficiaries domiciled in Karnataka in all the state road transport corporation's ordinary buses. The scheme came into force on 11th June, 2023. The main aim of the scheme is to achieve women's empowerment by offering them freedom of mobility. The scheme also enables the eligible beneficiaries to save on their travelling costs which denotes an excess income for them and their families.

As per the 68th round of Household Consumption Expenditure Survey 2023-24 conducted by NSSO, per person, the approximate monthly spending on conveyance in Karnataka is Rs. 665 in urban areas and Rs. 380 in rural areas. This accounts for nearly 9% of the per capita expenditure. (MOSPI, 2024) However, because of the Shakti scheme, eligible beneficiaries would now save that amount. This would lead to the income effect which means that the families would spend the money saved on their travelling to purchase other necessary items. This modifies the spending pattern of the households and on every purchase they make, the government tends to receive GST as it is a consumption-based tax. These taxes will account for revenue for the government. The common notion is that any scheme, while it costs the government exchequer in terms of increased expenditure on the one hand, generates revenue for the government through escalated spending and GST collection or in any other form. Evaluation of such revenues and expenditures for particular schemes is known as fiscal impact analysis.

The present report aims to find out such fiscal impact of the Shakti scheme on the government of Karnataka. The revenue mobilised for the government is calculated by the share of the Shakti scheme in total monthly GST collection and the expenditure is tracked by way of analysing the budget allocation for the Shakti scheme. The GST collection is calculated using the total ticket value generated from the Shakti scheme. Accordingly, the total ticket value from June 11, 2023 to March 31, 2024 i.e; for nine months is Rs. 4380.37 crores and assuming this to be the amount available in the hands of passengers to spend and the household spends the entire amount in the same proportion of the adjusted consumption expenditure pattern of 2011-12 as given in the HCES 2011-12 survey report by NSSO, the total GST collection from such spending estimated at Rs. 153.48 crores. The share of this accounts for 2.55% of the aggregate monthly GST collection for nine months. On considering the latest data on the consumption expenditure pattern of 2022-23, this amount would be Rs. 168.46 crores, accounting for up to 2.63% of the aggregate GST collection for the said period. However, this is only the approximation and may be the upper limit as it is calculated based on the assumptions mentioned above.

The expenditure on the Shakti scheme is calculated by analysing the Annual Financial Statements, Medium-Term Fiscal Policy Statement of the Government of Karnataka and the budget documents of the Government of Karnataka. The calculations with adjusted consumption expenditure data show that the revenues generated from the Shakti scheme is 3.50% of the total

expenditure made. On the other hand, the revenue computations based on unadjusted consumption expenditure data i.e, commodity-wise data as given in the detailed report of HCES 2022-23 would account for 3.85% of the total amount spent for the Shakti scheme in FY 2023-24. The analysis of medium-term fiscal indicators reveals that other things being constant, the Shakti scheme accounts for 31.39% of revenue deficit, whereas the net fiscal effect is 5.94% and 5.91% of the fiscal deficit as per Data Adjusted Consumption Expenditure and Data Unadjusted Consumption Expenditure of the state as per the revised estimates of 2023-24 respectively. Further, the Shakti scheme increases the Karnataka State Government's total liabilities by 0.75%. The comparison of analysis with and without Consumption Expenditure Adjusted data shows marginal changes in the revenue and expenditure effects of the scheme on the GoK. This is because the size effects of the MPCE were already accounted for while adjusting the consumption patterns for 2022-23. This is also an indication that the consumption patterns have not remarkably changed from 2011-12 through 2022-23.

The Shakti scheme was introduced recently and the fiscal analysis for nine months reveals a considerable contribution to the revenue mobilisation of the Government of Karnataka and the net fiscal effect is less than the expenditure made on the Shakti scheme. Nevertheless, these revenue effects have not been captured in the scheme design, which on inclusion, changes the outlook of the scheme.

Apparently, in the initial period, the scheme causes the burden of committed expenditure on the government which is more than the revenue generated. However, the assessment of the social impact on the female labour force participation reveals that the female labour force participation and worker population rates have been increased after implementation of the scheme. The scheme is also facilitating the RTC to achieve financial self-sufficiency in their operations as the free ridership has increased passenger traffic in the buses. However, this is dependent on the timely reimbursement of the Zero Value tickets by the GoK. Thus, in the long-run, the effects of public expenditure burden of the scheme may not outweigh the combined positive revenue effect and non-fiscal effects of the scheme. However, ultimately, this is an empirical question to be explored in the future.

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List of Abbreviations

APL	Above Poverty Line
BE	Budgeted Estimates
BMTC	Bangalore Metropolitan Transport Corporation
BPL	Below Poverty Line
CGST	Central Goods and Service Tax
CWS	Current Weekly Status
DSCR	Debt Service Coverage Ratio
EKM	Effective Kilometers
FFFPT	Full Fare-Free Public Transport
GDP	Gross Domestic Product
GoK	Government of Karnataka
GST	Goods and Services Tax
HCES	Household Consumption Expenditure Survey
IGST	Integrated Goods and Services Tax
KFRA	Karnataka Fiscal Responsibility Act
KKRTC	Kalyana Karnataka Road Transport Corporation
KSRTC	Karnataka State Road Transport Corporation
LFPR	Labour Force Participation Rate
MFTP	Medium-Term Fiscal Policy
MOSPI	Ministry of Statistics and Programme Implementation
MPCE	Monthly Per Capita Expenditure
NSSO	National Sample Survey Office
NWKRTC	North-West Karnataka Road Transport Corporation
PLFS	Periodic Labour Force Survey
RE	Revised Estimates
RoCE	Return on Capital Employed
RoE	Return on Equity
RoI	Return on Investment
RTC	Road Transport Corporation
SGST	State Goods and Service Tax
STiK	Social Transfers in-Kind
UR	Unemployment rate
WPR	Worker Population Rate

Chapter 1 : Introduction

In India, women constitute 48% of the total population, but, their contribution to GDP growth is only 18% (NFHS, 2023). The recent PLFS survey shows that the female workforce participation in 2022 was 28.6% which has increased to 35.4% in 2023. This indicates a lack of participation of women in the workforce. This gap is because of constraints faced by women, like the burden of domestic and unpaid tasks, non-availability of care workers, lack of support from family and dearth of proper facilities to commute and their high fares. Despite these obstacles, women have played an important role in the development of the economy.

Of late, the governments have also realised this and are showing interest in bringing more women-centric and women-friendly policies. For instance, Government of Karnataka has been implementing programs, such as Udyogini scheme, Samruddhi scheme, Stree Shakti scheme, Gruhalakshmi scheme and Shakti scheme. Each of these schemes is targeted at the improvement of the socio-economic conditions of women, upliftment of women of weaker sections, and women empowerment. Shakti scheme is one such scheme, which offers free mobility for Karnataka state domiciled women, girl children and transgender persons in all the non-luxurious state road transport buses.

Public finance in India encompasses the management of government revenue, expenditure, and debt to achieve economic stability, social welfare and sustainable development. It studies how the governments at various levels allocate resources, raise revenue through taxation and other means to meet the needs of the society. Fiscal management is a very important aspect of public finance. It refers to the process of planning, directing and controlling the use of financial resources by the governments or organisations to achieve their objectives effectively and efficiently. Initially, the focus of public finance was only on nation-building and economic development. However, these days, governments are playing a crucial and central role in addressing issues like poverty, inequality and infrastructure gaps through public finance. The guarantee schemes offered by the Karnataka state government from 2023-24 are the result of such initiatives by the government.

The guarantee schemes offered by the Government of Karnataka involve a considerable financial consequence on the expenditure and revenue generation and the overall budgetary conditions of the state. Hence, it is very important to understand the fiscal and financial consequences of such a scheme on the state government.

In this context, the current study aims to answer to the following research questions:

1. What are the direct and indirect fiscal effects of the Shakti scheme on GoK?
2. How does the Shakti scheme affect revenue mobilisation of the GoK?
3. What are the effects of the Shakti scheme on the financial management of road transport corporations?

1.1 Review of literature

The fare-free public transport (FFPT) system offers fare-free transportation to the passengers. The transporter collects the funds for operation of public transport by means other than the travel fares. This FFPT system had been implemented in various other countries with different objectives across different classes. Some countries have implemented it as an initiative for environment protection while other countries consider this as a social welfare measure. For

instance, cities in the Netherlands offer free service to university students. Tallinn, the capital city of Estonia, is the first city to successfully implement free bus services to its citizens and Luxembourg is the first country to offer free public transport services to all its citizens. Some studies have been conducted to assess the effect of the FFPT policy on the modal shift, travelling frequency and environmental benefits, traffic congestion etc., A few of the important studies and their outcomes are discussed below.

Cats., et al., (2014) evaluated the impact of FFPT on service performance, passenger demand and accessibility for various travellers' groups. They found that the FFPT measure accounts for an increase of 1.2% in passenger demand with the remaining increase attributed to the extended network of public transport primary lanes and increased service frequency.

Keblowski (2018) conducted a study on fare-free public transport in Chengdu, China. The FFPT policy was adopted to help the older citizens in the city and later extended to all the citizens irrespective of their age or social status. This FFPT initiative was of a small scale and targeted to a particular community or class of citizens. It improved intra-neighbourhood connectivity and filled the gap in the large-scale public transport system.

Dutra (2019) conducted a study on concepts and application of fare free public transport and sustainable public transport using the cases of Avesta and Tallinn and analysed the future applicability of its cases in Luxembourg and Uppsala. The study considered different aspects like societal, financial and environmental effects of FFPT and found that the benefits of FFPT could be reaped in the long term and its environmental and societal benefits overpower the economic benefits of the policy.

Bockova (2023) conducted a study to provide empirical evidence of the effect of fare subsidies in the Czech Republic and the Slovak Republic. The author investigated the impact of introducing public transport subsidies for socially disadvantaged population groups and found that there is a significant difference in the travelling of people in Slovak Republic after introducing the FFPT, whereas a discount of fares proved to be insignificant in the Czech Republic as there was a lesser difference in how people travelled using public transport before and after the implementation of the policy.

Cirillo et al (2023) conducted a study based on a primary survey to determine the effect of the FFPT policy on the travelling behaviour of the public. They found that around 32% of respondents increased their bus usage after the policy was implemented, with approximately 80% of this subset utilising buses more frequently than before. This indicates an increase in ridership because of the FFPT policy.

The fare free public transport policy is not a new concept in India. Prior to Karnataka, Delhi and Tamil Nadu Governments have implemented this scheme. Punjab has recently adopted the FFPT policy for women and in Maharashtra, 50% relaxation on travel fares is offered to women passengers.

The Planning Department, Government of National Capital Territory of Delhi, conducted a study to assess the impact of the socio-economic welfare schemes of the Government of Delhi. They found that the subsidy schemes or free offers of the necessary services by the governments significantly help people save some amount and they benefit the low-income group citizens. Anyhow, this study assessed the change in the socio-economic status of the citizens of Delhi and not the fiscal effects.

1.2 Research Gap

The review of related literature above shows a few studies on fare free public transport policy and in-kind transfers. These studies are undertaken to assess the effect of FFPT policy on the travelling behaviour of people, analysis of modal shift of means of transportation by the people, effect of FFPT on environment and frequency of travelling of people and analysis of passenger load factor. However, there are no studies which analyse the effect of FFPT in terms of fiscal implications. Therefore, this study is taken up to address the gap in the assessment of the fiscal impact of the Shakti scheme in the GoK.

Based on this research gap, the following objectives are framed.

1.3 Objectives of the Study

The objectives of the study are as follows:

- Estimate the direct and indirect fiscal effect of the Shakti scheme of GoK.
- Explain the fiscal effect of the Shakti scheme of GoK.
- Assess the financial effects of the Shakti scheme on financial management with special reference to Bangalore Metropolitan Transport Corporation (BMTC), a public sector undertaking in GoK.
- Derive policy implications of the analysis.

1.4 Methodology

This study follows the analytical research design, and uses the facts and figures available to critically evaluate the fiscal effect of the Shakti scheme on the GoK. The study is based on secondary data from official sources, available in the public domain.

The direct and indirect effects of the scheme are examined using income effect and female workforce participation rates. As the scheme has direct effects on the income of households, the savings on transportation costs may be spent on other goods/ services by the households. The direct effect of the scheme is determined by analysing changes in the consumption expenditure of households before and after the implementation of the scheme. To assess this, the Household Consumption Expenditure Survey (HCES) Data from the National Statistics and Survey Office (NSSO), Government of India is used.

The indirect effect is analysed with changes in the Female Labour Force Participation Rate (LFPR) and Female Worker Participation Rate (WPR) and Unemployment Rate (UR) at Current Weekly Status. This data is obtained from quarterly Periodic Labour Force Survey reports. The LFPR and WPR rates are compared to assess the changes in female workforce participation before and after implementation of the Shakti scheme. To isolate the effect of Shakti scheme on women's empowerment, the LFPR and WPR for the neighbouring Kerala state are also compared with the LFPR and WPR of Karnataka State.

The fiscal effect of the Shakti scheme is quantified by analysing the revenue generated and expenditure incurred to implement the scheme. The revenue effect is calculated by using changes in Goods and Services Tax (GST) collection by the Government because of increased or modified spending of households out of savings on bus fare. This is calculated by analysing the share of the Shakti scheme related State GST (SGST) collection after implementation of the scheme. In the absence of the detailed HCES 2022-23 report at the time of commencement of the analysis, the approximations were made using the HCES 2011-12 detailed report and HCES

2022-23 key highlights. Hence, to calculate the item-wise GST collection, the monthly per capita expenditure of various items for Karnataka state is collected from HCES 2011-12 detailed report and HCES 2022-23 key highlights. Then the total ticket value generated by the RTCs under Shakti scheme is divided into urban and rural consumption based on the Population Projections For India and States 2011-2036 report and the commodity-wise consumption expenditure is derived. Then, the items which are eligible for GST are listed and their GST contribution is calculated. Further, this revenue is compared with the unadjusted revenue effect calculated using the detailed report of the 68th round of NSSO of HCES 2022-23.

The expenditure effect of the scheme is estimated by analysing the budget allocation/ expenditure for the Shakti scheme in 2023-24. The budget allocation for the scheme is extracted from expenditure volume 1 of Budget 2023-24 (July) and 2024-25. The percentage share of the Shakti scheme in the State Budget allocation and Gender Budget is calculated to analyse the size of the Shakti scheme in the budget. Given the total revenue mobilised and expenditure incurred on the Shakti scheme, net fiscal impact is calculated by subtracting the scheme's revenue from the expenditure. As per the budget, debt and deficit implications and the scheme are assessed through standard norms in Karnataka Fiscal Responsibility Act (KFRA), 2001.

The government reimburses the ticket value travelled by the eligible beneficiaries under the Shakti scheme. This affects the revenue generation of the road transport corporations as well. This is analysed by comparing the financial statements and the performance indicators of BMTC before and after the implementation of the scheme with a case study of BMTC.

Though the Full Fare Free Public Transport (FFFPT) scheme is a tried and tested concept in many developed and developing countries, it is still in a trial mode in India. Given the limitations of data, this report focuses on direction rather than size of fiscal and financial implications of the Shakti scheme in GoK.

1.5. Assumptions and data adjustments of the study

To assess the revenue effect of the Shakti scheme, the data on periodic changes in the individual consumption and saving pattern and the commodity-wise GST collection in the state is required. However, in the absence of such relevant data, the calculations in the present study are subject to the following qualifications:

- All the savings on travelling fares by women are spent on consumption of other necessary items.
- This research was started in the month of November 2023. At that time, the full report of the 68th round NSSO HCES 2022-23 was not released for calculation of revenue effect. This data limitation had necessitated the data adjustment in terms of applying the pattern of commodity consumption of household expenditure of 2011-12 for 2022-23. This is called data adjusted revenue effect. Subsequently on June 19th 2024, NSSO released the full report of HCES 2022-23 (MOSPI, 2024). Using this data, revenue effects are recalculated and compared with adjusted revenue effect.
- The savings of women on bus fare is the savings of the households.
- The ticket value travelled by women is the aggregate amount saved by the women.

The results from the study can be refined and the revised magnitude of the effect can be calculated provided these data limitations are mitigated in future.

1.6 Limitations of the study

- Lack of availability of latest and updated data.
- The study is confined to six months. Therefore, only limited aspects are considered for calculating mobilisation of revenues i.e., revenue generated from tourism etc., are not considered.

1.7. Organisation of the report

This report is divided into six chapters. The chapterisation of the report is as follows:

Chapter 1: Introduction

This chapter includes the focus and importance of the study, research questions, review of related literature and research gap, objectives of the study and the methodology adopted to achieve the objectives.

Chapter 2: The Shakti scheme - Description and Fiscal Importance

This chapter is divided into two parts. Part one gives an introduction to the Shakti scheme. It covers the objectives of the Shakti scheme, a comparison of the Shakti scheme with other guarantee schemes, and government guidelines for operating and implementing the scheme.

Part two of the chapter describes the fiscal policy and its importance, and the scheme's fiscal effect in terms of revenue effect and expenditure effect.

Chapter 3: Fiscal effect of Shakti scheme- Revenue effect.

In this chapter, the revenue effect of the Shakti scheme on the government of Karnataka is assessed.

Chapter 4: Fiscal effect of Shakti scheme- Expenditure effect.

The expenditure effect of the Shakti scheme on the Government of Karnataka is discussed in terms of budgetary allocation for Shakti scheme in the State budget and Gender budget and also in terms of Medium Term Fiscal Policy indicators.

Chapter 5: Non-Fiscal Implication of Shakti scheme

This chapter is also divided into two sections. Section one covers the implication of Shakti scheme on the financial management of BMTC and the second section deals with the effect of Shakti scheme on women empowerment which is assessed in terms of changes in female workforce participation rates.

Chapter 6: Conclusion

This chapter concludes with policy implications.

Chapter 2 : The Shakti Scheme - Description and Fiscal Importance

2.1. The Shakti scheme

The Government of Karnataka has implemented the “Shakti Yojane”, which offers free bus transport to all women and transgender people (apart from linguistic minorities) in all non-premium bus services offered by all the state-run Road Transport Corporations (RTCs). The scheme has been operative since 11th June 2023. The main aim of the scheme is to empower women and transgenders by offering free mobility. The scheme is expected to benefit 42 lakh women and transgenders who use state-run public transport services. As presented in the State Budget 2023-24 on 7th July 2023, the Government has allocated Rs. 4000 crores of annual cash outlay for the scheme.

Eligible Beneficiaries

An eligible beneficiary is an individual or group of persons who are entitled to receive the benefits of the scheme. The eligible beneficiaries for the Shakti scheme include all ‘women, transgender persons and girl children who are domiciled in the State of Karnataka’.

Along with this, the State Government has also brought in some other social welfare schemes in the State Budget 2023-24 (as presented to the State Legislature on 7th July 2023). They are the “Gruha Jyoti” scheme, “Gruha Lakshmi” scheme, “Anna Bhagya” and “Yuva Nidhi”. Each one of the schemes is targeted at poverty alleviation, social welfare and women's empowerment. As we can see in Table 2.1, the size of benefits of the Shakti scheme is predetermined because the total number of beneficiaries is unknown. While the other schemes are targeted to specific socio-economic classes and require registration of beneficiaries to avail of scheme benefits, the Shakti scheme applies to all women who are domiciled in Karnataka irrespective of their caste, religion and socio-economic status and there is no need for registration of the beneficiaries to get the scheme benefit. Below are the important comparative features of the social welfare schemes offered by the Government.

Table 2.1: Distinguishing features of Shakti scheme among the five social welfare schemes

Scheme	Objective	Target Group	Nature and kind of transfer	Exclusionary Clause	Size of Benefit	Total Allocation in Budget (July) 2023-24
Shakti Yojane	• Empower women and transgender people by increasing their mobility and safety.	Women, Girl Child and transgender persons	In-kind Transfer	• All men • Women who are not domiciled in Karnataka State.	Free bus service as per the travel.	Rs. 4,000 crores

Gruha Lakshmi	<ul style="list-style-type: none"> Economic empowerment of women by offering the monthly financial assistance 	<ul style="list-style-type: none"> Woman head of families of Karnataka State 	Cash Transfer	<ul style="list-style-type: none"> If the woman head or her Husband is an income tax payer. If the woman head or her husband files GST Returns 	Rs.2000/- monthly assistance to women head of family	Rs. 30,000 Crores
Anna Bhagya	<ul style="list-style-type: none"> Eliminate Hunger and malnutrition in economically weaker section. Reduce Financial Burden 	<ul style="list-style-type: none"> BPL and Antyodaya Card holders 	In-Kind Transfer	<ul style="list-style-type: none"> Non- BPL Card holders 	Free 10 Kgs of rice (Rs. 170 per beneficiary (approx.))	Rs. 10,000 Crores
Gruha Jyoti	<ul style="list-style-type: none"> Reduce electricity costs by providing free electricity for up to 200 units to every residential household in Karnataka 	<ul style="list-style-type: none"> All households of Karnataka State. 	In-Kind Transfer	<ul style="list-style-type: none"> Commercial Electricity users. Consumption of electricity of more than 200 units in a month 	Up to 200 units of free electricity to all households	Rs. 13,190 Crores
Yuva Nidhi	<ul style="list-style-type: none"> To provide financial assistance to unemployed degree and diploma holders 	<ul style="list-style-type: none"> Unemployed youth of the state of Karnataka 	Cash Transfer	<ul style="list-style-type: none"> Those enrolled for higher education. Those availing apprenticeship Salary. Those who are running businesses by taking a bank loan 	Monthly unemployment allowance of Rs. 3000/- for unemployed Graduates and Rs. 1500/- for unemployed diploma holders.	Rs. 1200 crores

Source: Compiled by researcher

Table 2.1 shows the following similarities and distinguishing features in comparison with ‘Shakti Yojane’:

- The Shakti and Gruhalakshmi schemes have the common objective of women empowerment, but the Gruhalakshmi scheme applies only to women listed as family heads on Antyodaya, BPL and APL ration cards.
- The scheme is an in-kind transfer like the Annabhagya scheme and Gruhajyoti scheme.
- Unlike the other schemes, the beneficiaries need not register with Government portals to avail the facility of fare-free transport under the Shakti scheme.
- The Shakti scheme completely differs from other schemes in terms of the size of benefits, eligibility criteria and beneficiaries.
 - Unlike the other schemes, neither the exact number nor the details of the beneficiaries are known beforehand in this scheme. Hence, the size of benefit cannot be predicted accurately. Therefore, the total expenditure on Shakti scheme will vary depending on the usage of the benefits of the scheme.
 - The Shakti scheme is distinct from other schemes in terms of eligibility criteria. Whereas the other schemes have specific eligibility criteria to get the scheme benefits, the Shakti scheme has universal applicability i.e, the scheme applies to all women, girl children and transgenders who are domiciled in Karnataka irrespective of any social or economic class difference.
 - In all the other schemes, the benefits are directly transferred to the registered beneficiaries, whereas in the Shakti scheme, the benefit or service is delivered through the Road Transport Corporations. Thus, the RTCs benefit by increased revenue due to an increase in overall ridership, improved effective kilometer per passenger (EKM) and reduced operating costs.

2.2 Government Guidelines

The GoK has provided the following guidelines for implementing and operating the Shakti scheme through the Government Order. (Karnataka, 2023)

- The scheme is open to all women, transgenders and girl children, who are domiciled in Karnataka.
- Women can travel for free only on bus services by RTCs within the state.
- City, ordinary and express bus services will be part of the scheme.
- The scheme will apply to all four Road Transport Corporations in the state (KSRTC, BMTC, NWKRTC and KKRTC).
- The scheme will not apply to luxury buses Rajahamsa, Airavat, Airavat Club Class, and Airavat Gold Class, non-AC sleeper, Ambaari Dream Class, Ambaari Utsav, Fly EV Power Plus, Vajra and Vayu Vajra buses).
- Half of the seats on KSRTC, NWKRTC and KKRTC's ordinary and express buses will be reserved for men. Luxury, AC and interstate buses as well as BMTC buses will be exempted from this.
- The RTCs should issue Zero tickets to the women mentioning the distance to be travelled by them.
- The government will reimburse the RTCs based on the actual distance travelled by women.
- The scheme is applicable for travelling and not for baggage carried by them. Baggage charges have to be paid by women.

- The beneficiaries can avail Zero tickets by showing proof of domicile like an Aadhaar card, voting card etc.,
- This scheme is not applicable for packages like daily passes, monthly passes, contract vehicles, chartered services etc.,

As mentioned in the guidelines issued by the State Government in Government Order No. TD 18 TCB 2023 dated 20th of May 2023, the RTCs should issue Zero tickets to the women passengers mentioning the distance travelled by them and the government will reimburse the amount to RTCs based on this. Therefore, it is a social transfer in kind (STiK) by the Government of Karnataka. Social transfers in kind are intended for the welfare of the citizens. As defined by the OECD Library, “Social in-kind transfers consist of individual goods and services provided to the household by the government either free or at prices that are economically not that significant.” It represents the value of expenditure incurred by government units on individual consumption of goods or services provided to people as social transfers in-kind. As per the Shakti scheme, instead of women and transgender passengers, the government will pay for their travel fares. These savings on the cost of travelling can be considered as a rise in the income of the households which will affect their purchasing power. The increased spending will hike the tax collection for the government through consumption- based taxes (eg., GST).

Also, since the implementation of the Shakti scheme, the overall ridership in State Road Transportation Corporation (RTC) bus services has surged. This will also have an impact on reduced operating cost of the RTCs as the soaring ridership would lead to optimum capacity utilisation. This is a case of non-fiscal effect of the Shakti scheme.

Overall, the scheme has three important effects. First is the fiscal effect, second is a financial effect on RTCs. Third is the socio-economic effect through women empowerment by increased work participation of women.

2.3. Fiscal Policy

“Fiscal policy is the use of government spending and taxation to influence the economy” (Mark Horton and Asmaa El-Ganainy, 2009). It is used by governments to promote strong and sustainable economic growth and poverty alleviation. It is a policy of the government related to its taxes, spending and borrowings for attaining the desired level of economic growth. The impact of the fiscal policy on any economy is measured by using indicators like the level of national income, employment and inflation, level of savings and investment and the position of balance of payments. The major objective of fiscal policy includes the mobilisation of resources through taxes and borrowings, reducing income and wealth inequality, and maintaining price stability etc., The free mobility scheme (Shakti scheme) offered by the GoK to the state’s women, girl children and transgender persons affects the fiscal position of the government, as 0.85% and 1.34% of the total amount of the state budget 2023-24 (July) and 2024-25 is allocated towards the scheme respectively. This is quite a sizeable share. The scheme is a form of government transfer in kind, where the benefits are offered to the public in terms of services instead of directly giving cash to them. In the case of the Shakti scheme, the bus fare of the eligible beneficiaries is paid by the government instead of the beneficiaries. This can also be considered as an expansionary measure by the government, and presuming that all the money saved will be spent on other commodities, the consumption-based tax revenue for the government will be increased.

The effect of fiscal policy decisions on various economic indicators like GDP growth, inflation, employment, and income distribution is referred to as the fiscal impact. The fiscal impact can be positive or negative. A positive fiscal impact stimulates economic growth. It helps the policymakers to understand the consequences of the fiscal decisions and redo the policies accordingly. The fiscal impact analysis typically involves analysis of cash inflows and outflows be it revenue generation or operating cost or capital cost of the scheme. Therefore, the fiscal impact of the Shakti scheme can be assessed by analysing the revenue effect and the expenditure effect of the scheme.

Revenue Effect refers to the impact of fiscal policy decisions on government revenue. For example, tax cuts may lead to a decrease in government revenue and vice versa. The excessive spending out of the savings on the conveyance cost of eligible beneficiaries has led to increase in GST collections by the government and the surge in the tourism activity is also indirectly contributing towards increasing the revenue for the government of Karnataka. The assessment of the revenue effect is essential for understanding the fiscal sustainability of government policies and their implications for budget deficits or surpluses. The revenue generated from the Shakti scheme through GST collection forms quietly a fair share of the amount spent. And thus it indicates a positive fiscal effect on the government.

The expenditure effect pertains to the influence of fiscal policy decisions on government spending. When the government increases the spending on goods and services, it can stimulate economic activity and aggregate demand and vice versa. Evaluating the expenditure effect helps the policymakers understand how changes in government spending affect various sectors of the economy, such as infrastructure, education, and defence, and how they contribute to overall economic growth. The expenditure on the Shakti scheme has taken a significant share in the debt and deficit position of the government. The scheme also offers benefits to the RTCs in terms of

increased passenger load, which helps them earn comparably more traffic revenues. Taking these into account, the analysis of the impact of Shakti schme at the fiscal side becomes important.

Chapter 3 : Fiscal Effect of Shakti Scheme - Revenue Effect

Fiscal impact is the direct and indirect effect of a government transfer scheme on the government's revenue and expenditure levels. A change in revenue mobilisation because of a specific scheme is called a revenue effect.

Fiscal impact analysis is the amount spent and the revenues mobilised, as money is always a scarce resource and it should be used judiciously. Further, if the expenditures overflow the revenue receipts, then the Government has to borrow from the outside sources which will again lead to the burden of interest payment. Fiscal impact analysis is done by analyzing cash flows in terms of revenues of the government and the cost of implementation and operation of the scheme. To analyse the fiscal impact of the Shakti scheme, we calculate the revenues generated and the expenditure made on the scheme. This chapter is focused on the revenue effect of the Shakti scheme.

The revenue effect of a program or scheme is calculated by projecting the potential cash inflows generated by that scheme.

As we have already discussed, the Shakti scheme allows eligible beneficiaries to travel for free in public transport service buses, and to save on their travel expenses. For example, a woman travelling daily to her workplace by road transport service bus and spending Rs.1200/- for the monthly travel expenses, would now save that amount because of the Shakti scheme. This would lead to an income effect. That is, a change in the income of an individual leads to a change in demand for goods or services due to a change in purchasing power. In this case, the amount saved on the travel results in increased income for a traveller. Such saved amount may be spent on consumption. Thus, extra spending would modify the tax collections by the government. As consumption taxes are the government's main revenue source, a surge in GST collection will increase the revenue for the government. In this context, the revenue effect is calculated by analysing the GST collection by the state for various commodities or goods and services. Though the state-wise monthly GST collection details are available, tax collection from a particular sector or on a particular commodity is not accessible publicly. Alternatively, tax collection on particular items can be calculated from the total consumption expenditure on respective items, as GST is a consumption-based tax. This would help us to understand on which commodities the excess money is being spent.

3.1 Data Adjusted Revenue Effect

To calculate the item-wise GST collection, total consumption expenditure on different goods and services is required. This can be availed from the Household Consumer Expenditure Survey data which is conducted quinquennially (every 5 years) by NSSO. The latest available detailed report is "Household Consumption Expenditure Survey, 2011-12" as the survey report of 2017-18 has not been released because of data quality issues and the 2022-23 survey has been completed very recently and only the key highlights were available in the public domain up to 19th June 2024. Therefore, at the time of starting research in the month of November 2023, this report used the "Household Consumption Expenditure Survey (HCES), 2011-12" as a base as well as for comparison. The survey report provides information regarding the breakup of Monthly Per

Capita Expenditure (MPCE) based on MMRP¹ on nearly 32 broad categories of goods and services in both rural and urban areas for all the states. This data is used to approximate the consumer expenditure on different categories of items.

Table 3.1 provides the list of the commodities and their MPCE for urban areas and rural areas as given in HCES 2011-12. The first column gives the list of commodities, the second and third columns show the percentage share of each commodity and the MPCE for rural areas respectively and the fourth and fifth columns give details of the percentage share and the MPCE for urban areas respectively.

Table 3.1: List of commodities and their share in Total Monthly Per Capita Expenditure, Karnataka State 2011-12

Sl. No	Commodity	Rural		Urban	
		Percentage	MPCE (Rs.)	Percentage	MPCE (Rs.)
1	Cereals and Cereal Substitutes	9.61	150.08	6.13	185.51
2	Pulses and Pulse Products	3.33	51.97	2.07	62.49
3	Milk and Milk Products	4.82	75.25	4.38	132.37
4	Sugar and Salt	1.65	25.83	0.88	26.75
5	Edible oil	3.49	54.47	2.18	66.02
6	Egg, fish and Meat	5.42	84.64	3.34	279.01
7	Vegetables	5.26	82.1	3.38	102.13
8	Fruits (Fresh and Dry)	4.31	67.29	4.11	124.48
9	Spices	3.99	62.34	2.42	73.1
10	Beverages, Refreshments etc.,	9.46	147.75	10.89	329.61
	Food (total) (A)	51.35	801.72	40.08	1212.63
11	Pan, Tobacco and intoxicants	4.07	63.56	1.61	48.68
12	Fuel and Light	6.68	104.3	5.40	163.36
13	Clothing, Bedding and Footwear	6.49	101.4	5.69	172.05
14	Education	2.31	36.08	6.72	203.26
15	Medical (Institutional & Non-ins)	7.85	122.51	4.53	136.92
16	Misc. Goods & Entertainment	6.07	94.73	6.48	196.2
17	Consumer Services excl. Conv	4.02	62.76	5.75	173.94
18	Conveyance	4.86	75.81	6.93	209.73
19	Rent	0.59	9.28	11.90	360.04
20	Taxes and Cess	0.58	9	1.17	35.51
21	Durable Goods	5.13	80.15	3.74	113.22
	Total (Non-Food Items) (A+B)	48.65	759.58	59.92	1812.91
	Grand Total	100	1561.3	100	3025.54

Source: Researcher's computations

¹ Modified Mixed Reference Period: It is a method followed while collecting the data related to household consumption expenditure where 7 days reference period is considered for category 2 items (edible oil, egg, fish, meat, vegetables, fruits, spices and beverages and processed foods), 365 days of reference period is considered for category 1 items (Clothing, bedding, footwear, education, medical and durable goods) and 30 days of reference period for category 3 items (all other food, fuel and light, miscellaneous goods and services including non-medical expenses, rents and taxes).

In Table 3.1 the MPCE is directly extracted from the survey report and the percentage share of each item in MPCE is calculated as follows:

$$\% \text{ share of } x \text{ in total MPCE} = \frac{\text{MPCE on item } X \text{ in } 2011-12}{\text{Total MPCE in } 2011-12} \times 100 \text{ ----- (1)}$$

The total MPCE as per the HCES 2011-12, is Rs. 1561.30 for rural areas and Rs. 3025.54 for urban areas. The analysis of the percentages shows that in rural areas, expenditure on food items is more (51.35%) and in urban areas, expenditure on non-food items is more (59.92%). In rural areas, expenditure on cereals and cereal substitutes constitutes the major portion i.e.; 9.61% of the total MPCE followed by Beverages and Refreshments (9.46%) and Medical expenses (institutional and non-institutional) (7.85%). Spending on conveyance constitutes 4.86%. In urban areas, rent constitutes the major share of the total MPCE followed by beverages and refreshments (10.89%) and conveyance is the third highest item of consumer expenditure (6.93%). This indicates that the people in urban areas spend more on transportation in comparison with the rural areas.

The HCES survey collects data on a wide variety of items that are broadly categorised on which the people commonly spend. The analysis of 2011-12 data helps us to determine the percentage share of expenditure on such commonly spent items. Because the key highlights of HCES 2022-23 provide data only on total MPCE for different states but not the item-wise breakup of expenditure, we assume that the consumption expenditure pattern is identical to 2011-12 and hence, the item-wise breakup of expenditure for 2022-23 is approximated using the same percentages.

Table 3.2 gives the calculated expenditure on various goods and services in 2022-23 for rural and urban areas. The first column contains the list of commodities surveyed, columns 2 and 3 give the percentage share of respective commodities in the total MPCE and calculated MPCE of the particular commodity respectively for rural areas and columns 4 and 5 contain the same information for urban areas for 2022-23.

Table 3.2: Percentage share of different items in Total Monthly Per Capita Expenditure, Karnataka State, 2022-23

Sl. No	Commodity	Rural		Urban	
		Percent age	MPCE _{Cal} (Rs.)	Percent age	MPCE _{Cal} (Rs.)
1	Cereals and Cereal Substitutes	9.61	422.5517	6.13	469.99
2	Pulses and Pulse Products	3.33	146.3601	2.07	158.32
3	Milk and Milk Products	4.82	211.9223	4.38	335.36
4	Sugar and Salt	1.65	72.74355	0.88	67.77
5	Edible oil	3.49	153.4007	2.18	167.26
6	Egg, fish and Meat	5.42	238.3668	3.34	279.01
7	Vegetables	5.26	231.2135	3.38	258.75
8	Fruits (Fresh and Dry)	4.31	189.505	4.11	315.37
9	Spices	3.99	175.5646	2.42	185.20
10	Beverages, Refreshments etc.,	9.46	416.0999	10.89	835.07
	Food (total) (A)	51.35	2257.62	40.08	3072.21
11	Pan, Tobacco and intoxicants	4.07	179.0004	1.61	123.33
12	Fuel and Light	6.68	293.7341	5.40	413.87

13	Clothing, Bedding and Footwear	6.49	285.567	5.69	435.89
14	Education	2.31	101.61	6.72	514.96
15	Medical (Institutional & Non-ins)	7.85	345.0179	4.53	346.89
16	Misc. Goods & Entertainment	6.07	266.7827	6.48	497.07
17	Consumer Services excl. Conv	4.02	176.7474	5.75	440.68
18	Conveyance	4.86	213.4994	6.93	531.35
19	Rent	0.59	26.13473	11.90	912.16
20	Taxes and Cess	0.58	25.34619	1.17	89.96
21	Durable Goods	5.13	225.7219	3.74	286.84
	Total (Non-Food Items) (A+B)	48.65	2139.38	59.92	4593.02
	Grand Total	100	4397	100	7665.23

Source: Researcher's computations

The percentage share of the amount spent on different goods and services during 2022-23 is approximated using the following:

MPCE(x) 2022-23= Share of commodity x in total MPCE*Total MPCE for rural/urban areas.--
----- (2)

The total MPCE as per the HCES Factsheet 2022-23 for Karnataka state is Rs.4397 in rural areas and Rs.7665.23 in urban areas. From Table 3.2, we note that the amount spent on conveyance or transportation per person in rural areas is Rs. 213.50 and in urban areas is Rs. 531.35, which means that a person in an urban area spends double the amount of rural person on transportation.

Tables 3.1 and 3.2 give the information regarding per capita consumption expenditure. To calculate the GST contribution of each item, aggregate monthly consumption expenditure data is required. To arrive at this, the aggregate MPCE on different items is calculated as follows:

Aggregate MPCE (x)= MPCE of commodity 'x' * total number of household members (of all
fractile classes) ----- (3)

As mentioned in the HCES 2011-12 report, the total number of household members was 1,94,57,200 for urban areas and 3,68,52,200 for rural areas. For 2022-23, only the estimated number of households is given in the factsheet. Then the total number of household members is obtained in the following way:

Average Household Size= $\frac{\text{Total Number of Household Members}}{\text{Total number of households}}$ -----(4)

Total number of household members= Average household size*Total number of households ---
---(5)

However, the average household size is also not available in the HCES 2022-23 factsheet. Therefore, the data on the average household size is extracted from the Multiple Indicator Survey 2020-21 conducted by NSSO, which is a comparably recent one. As per this report, the average household size in Karnataka is 4.5 in rural and 3.6 in urban areas. Accordingly, the following calculations have been done:

- Total number of household members (Rural) = 4.5*8923100= 40153950 members
- Total number of household members (Urban) = 3.6*6196500= 22307400 members

Based on these estimations the aggregate monthly consumption expenditure in rural and urban areas for 2011-12 and 2022-23 is calculated by multiplying the MPCE of a particular commodity and the total number of household members. These estimations are given in Table 3.3. The first column refers to the list of commodities, whereas, the second and third columns refer to the total monthly expenditure on a particular commodity for rural areas for 2011-12 and 2022-23 respectively and the fourth and fifth columns give the total monthly expenditure on a particular commodity for urban areas during 2011-12 and 2022-23 respectively.

Table 3.3: Calculation of Total Monthly Consumption of Items for Rural and urban areas, Karnataka State, 2011-12 and 2022-23

Sl. No	Commodity	Rural		Urban	
		2011-12	2022-23	2011-12	2022-23
		Monthly Consumption (Rs. In Crs)	Monthly Consumption (Rs. In Crs)	Monthly Consumption (Rs. In Crs)	Monthly Consumption (Rs. In Crs)
1	Cereals and Cereal Substitutes	553.08	1,697.15	360.95	1048.43
2	Pulses and Pulse Products	191.52	587.69	121.59	353.17
3	Milk and Milk Products	277.31	850.95	257.55	748.10
4	Sugar and Salt	95.19	292.09	52.05	151.18
5	Edible oil	200.73	615.96	128.46	373.12
6	Egg, fish and Meat	311.92	957.14	214.36	622.41
7	Vegetables	302.56	928.41	198.72	577.20
8	Fruits (Fresh and Dry)	247.98	760.94	242.20	703.51
9	Spices	229.74	704.96	142.23	413.13
10	Beverages, Refreshments etc.,	544.49	1,670.81	641.33	1862.82
	Food (total) (A)	2954.51	9,066.11	2,359.44	6853.30
11	Pan, Tobacco and intoxicants	234.23	718.76	94.72	275.12
12	Fuel and Light	384.37	1,179.46	317.85	923.25
13	Clothing ,Bedding and Footwear	373.68	1,146.66	334.76	972.36
14	Education	132.96	408.00	395.49	1148.74
15	Medical (Institutional & Non-ins)	451.48	1,385.38	266.41	773.82
16	Misc Goods & Entertainment	349.10	1,071.24	381.75	1108.84
17	Consumer Services excl Conv	231.28	709.71	338.44	983.04
18	Conveyance	279.38	857.28	408.08	1185.31
19	Rent	34.20	104.94	700.54	2034.80
20	Taxes and Cess	33.17	101.77	69.09	200.69
21	Durable Goods	295.37	906.36	220.29	639.87
	Total (Non-Food Items) (A+B)	2799.22	8,589.58	3,527.42	10245.84
	Grand Total	5753.73	17,655.69	5,886.85	17099.14

Source: Researcher's computations

The total aggregate monthly consumption expenditure (TMCE) as calculated in the above table is Rs.17,655 crores in rural areas and Rs.17,099.14 crores in urban areas for 2022-23.

3.1.1. Results for revenue effects with adjusted consumption expenditure data

Once the total monthly consumption expenditure is calculated, the items or commodities eligible for GST and their corresponding GST rates are listed. The GST collection on the particular commodity is obtained by multiplying the total monthly expenses on the particular items by their corresponding GST tax rates.

Table 3.4 gives the details of items eligible for GST and their contribution to urban area. The first column is the list of commodities that are eligible for GST, the second column contains the corresponding GST rates for those items, columns three and four denote the monthly consumption in crores and GST collected out of the total monthly consumption for 2011-12 respectively, columns five and six contain the details of monthly consumption of particular commodities in crores and GST collection from the commodity for 2022-23 respectively.

Table 3.4: Items Eligible for GST and their Tax Contribution from Urban and Rural Areas, Karnataka State, 2022-23

Sl. No	Commodity	GST (%)	Urban		Rural	
			Monthly Consumption (Rs. in Crs)	GST Contribution (Rs. in Crs)	Monthly Consumption (Rs. in Crs)	GST Contribution (Rs. in Crs)
1	Milk and Milk Products	5	748.10	37.41	850.95	42.55
2	Sugar	5	136.78	6.84	264.81	13.24
3	Edible oil	5	373.12	18.66	615.96	30.80
4	Fruits (Dry)	5	147.03	7.35	173.02	8.65
5	Spices	5	413.11	20.66	704.96	35.25
6	Beverages, Refreshments	5	1862.83	93.14	1670.81	83.54
7	Pan, Tobacco and	28	275.11	77.03	718.76	201.25
8	Fuel and Light	5	923.22	46.16	1179.46	58.97
9	Clothing, Bedding and Footwear	5	972.36	48.62	1146.66	57.33
10	Misc Goods & Entertainment	28	1108.84	310.48	1071.24	299.95
11	Consumer Services excl Conv	18	983.04	176.95	709.71	127.75
12	Conveyance	5	1185.31	59.27	857.28	42.86
13	Durable Goods	28	639.87	179.16	906.36	253.78
	Grand Total			1081.73		1255.92

Source: Researcher's computations

The GST contribution of each item is arrived at by multiplying the aggregate monthly consumption of each item and their respective GST rates.

Now, we approximate the GST contribution to the state from the amount saved by the households by availing Shakti scheme benefits to determine the revenue effect of the scheme on the state. To do this, we presume that the total ticket value is the amount saved and available in the hands of the households to spend.

The ticket value of women passengers and reimbursement details are mentioned in table 3.5. The first column is the date of reimbursement, second column denotes the ticket value in crores and the amount reimbursed by the government to the Road Transport Corporation.

Table 3.5: Ticket value and the amount reimbursed under the Shakti scheme

Date of reimbursement	Ticket Value (Rs.in cr)	Amount Reimbursement (Rs.in cr)
August, 2023	687	125.48
December, 2023	2671	1669.45
March, 2024	4380.37	3199.75
April, 2024	481.53	417.69

Source: Karnataka State Road Transport Corporation

The total ticket value of women passengers from June 2023 to March 2024 is Rs. 4380.37 crore which is the presumed amount saved by them by availing Shakti scheme. This amount is assumed to have income effect on other commodities. The total ticket value is again distributed over the items of monthly consumption expenditure based on the share of different items in total MPCE as mentioned in Table 3.1.

Table 3.6: Population Projections for 2021

	Male	Female	Total	% of Female Population
Rural	1,91,15,000	1,86,86,000	3,78,01,000	56.74
Urban	1,47,96,000	1,42,48,000	2,90,44,000	43.26
Total	3,39,11,000	3,29,34,000	6,68,45,000	100.00

Source: Population projections for India and States, 2011-2036

However, the amount spent on different items is different for rural and urban areas. Therefore, we first determine the percentage (%) of female population for urban and rural areas in total female population. That is, 56.74% in rural areas and 43.26% in urban areas.

Next, the total ticket value is divided based on above percentage shares. Accordingly, the following is obtained:

- Amount spent in rural area= $4380.37 \times 56.74\% = 2485.42$ crores.
- Amount spent in urban areas= $4380.37 \times 43.26\% = 1894.94$ crores.

This amount is considered to be spent on the same lines as the normal consumption of goods and services as in 2011-12. Thus, total urban consumption is multiplied by the % share of each item as spent in 2011-12 to know the possible amount spent on each item out of the saved amount.

Table 3.7 shows the item-wise monthly consumption based on the Shakti scheme. The first column gives the list of commodities, the second column consists of the percentage share of each commodity in total consumption in urban areas, the third column gives the approximate consumption expenditure on different items from the amount saved because of Shakti scheme for urban areas, and the fourth and fifth columns contain percentage share of the commodity in consumption in rural areas and the consumption expenditure on these items respectively.

Table 3.7: Monthly Consumption by Commodity items under Shakti scheme, Karnataka State, 2022-23

Sl. No	Commodity	Urban		Rural	
		Percentage	Monthly Consumption Expenditure (Rs. In crs)	Percentage	Monthly Consumption Expenditure (Rs. In crs)
1	Cereals and Cereal Substitutes	6.13	116.19	9.61	238.91
2	Pulses and Pulse Products	2.07	39.14	3.33	82.73
3	Milk and Milk Products	4.38	82.91	4.82	119.79
4	Sugar and Salt	0.88	16.75	1.65	41.12
5	Edible oil	2.18	41.35	3.49	86.71
6	Egg, fish and Meat	3.64	68.98	5.42	134.74
7	Vegetables	3.38	63.97	5.26	130.69
8	Fruits (Fresh and Dry)	4.11	77.96	4.31	107.12
9	Spices	2.42	45.78	3.99	99.24
10	Beverages, Refreshments etc.,	10.89	206.44	9.46	235.20
	Food (total) (A)	40.08	759.49	51.35	1276.25
11	Pan, Tobacco and intoxicants	1.61	30.49	4.07	101.18
12	Fuel and Light	5.40	102.31	6.68	166.03
13	Clothing ,Bedding and Footwear	5.69	107.76	6.49	161.42
14	Education	6.72	127.30	2.31	57.44
15	Medical (Institutional & Non-ins)	4.53	85.76	7.85	195.02
16	Misc Goods & Entertainment	6.48	122.88	6.07	150.80
17	Consumer Services excl Conv	5.75	108.94	4.02	99.91
18	Conveyance	6.93	131.36	4.86	120.68
19	Rent	11.90	225.50	0.59	14.77
20	Taxes and Cess	1.17	22.24	0.58	14.33
21	Durable Goods	3.74	70.91	5.13	127.59
	Total (Non-Food Items) (A+B)	59.92	1135.45	48.65	1209.17
	Grand Total	100	1894.94	100	2485.42

Source: Researcher's computations

In the urban areas Rs. 759.49 cr is spent on food items and Rs. 1135.45 cr is spent on non-food items and in rural areas Rs. 1276.25 cr and 1209.17 cr is spent on food and non-food items respectively. Of the above items, the commodities eligible for GST are identified and their GST contributions are calculated based on their corresponding rates.

Table 3.8 contains information regarding the GST contribution of different items from the Shakti scheme. The first and second columns denote the list of commodities that are eligible for GST and their corresponding GST rates respectively. The third and fifth columns represent the consumption expenditure on the respective items in crores for urban and rural areas respectively. The fourth and sixth columns denote the GST collected from these commodities in crore rupees for urban and rural areas respectively.

Table 3.8: Revenue Effect of Shakti scheme, Karnataka State, 2022-23 (July 2023-March 2024)

Sl. No	Commodity	GST Rates (%)	Urban		Rural	
			Monthly Consumption Expenditure (Rs. in crs)	GST Contribution (Rs.in crs)	Monthly Consumption Expenditure (Rs. in crs)	GST Contribution (Rs.in crs)
1	Milk and Milk Products	5	82.91	4.15	119.79	5.99
2	Sugar	5	15.16	0.75	37.28	1.86
3	Edible oil	5	41.35	2.07	86.71	4.34
4	Fruits (Dry)	5	16.29	0.81	24.36	1.22
5	Spices	5	45.78	2.29	99.24	4.96
6	Beverages, Refreshments etc.,	5	206.44	10.32	235.20	11.76
7	Pan, Tobacco and intoxicants	28	30.49	8.54	101.18	28.33
8	Fuel and Light	5	102.31	5.12	166.03	8.30
9	Clothing, Bedding and Footwear	5	107.76	5.39	161.42	8.07
10	Misc Goods & Entertainment	28	122.88	34.44	150.80	42.22
11	Consumer Services excl Conv	18	108.94	19.61	99.91	17.98
12	Conveyance	5	131.36	6.57	120.68	6.03
13	Durable Goods	28	70.91	19.86	127.59	35.73
	Grand Total			119.88		176.79

Source: Researcher's computations

The total monthly GST collections from rural and urban areas of Karnataka is Rs. 296.67 crores. However, as per the GST law, where the government follows a multi-tax structure comprising Central Goods and Service Tax (CGST), State Goods and Service Tax (SGST) and Integrated Goods and Service Tax (IGST), allocation of GST revenues is as follows:

- (1) CGST: It is levied on the interstate goods and services transaction. The revenue generated through CGST is collected by central government. This forms the divisible pool of taxes i.e; the portion of CGST collected by the government to be distributed to the states in the

form of net proceeds in proportion recommended by the Finance Commission of India. As per the recommendations of the 15th Finance Commission of India, the tax devolution of net proceeds of union taxes and duties for Karnataka for BE 2024-25 is 3.647%. (Budget of India, 2024).

- (2) SGST: It is the tax levied and collected by interstate goods and service transactions. The revenue generated through SGST is collected by the respective states. The SGST is levied at the same rate of CGST. The composition of CGST and SGST rates for different goods and services is given by the Department of Revenue, Central Board of Indirect Taxes and Customs. (CBIC, 2024).
- (3) IGST: It is the tax levied and collected by the Central Government on the inter-state transactions. The revenue generated through IGST is collected by the Central Government and shared with the state in which the good or service is consumed or the destination state.

Karnataka State's share in total GST collected out of Shakti scheme is approximated by Rs. 153.48 cr. This equals to sum of 50% total revenue by way of SGST revenue, and 3.647% of CGST (Rs. 5.51 cr) as per the recommendation of 15th Finance Commission. Thus, total GST contribution of Shakti scheme for GoK is Rs. 153.48 crore for 2023-24.

The month-wise ticket value under Shakti scheme is not available in the public domain. Hence, the total ticket value is divided by the number of months i.e; nine months (July 2023- March 2024). Accordingly, the average GST collection from the Shakti scheme is calculated as Rs. 17.05 cr. The percentage share of GST collection from the Shakti scheme is calculated in total monthly GST collection using the following formula:

% share of Shakti scheme= Average Monthly GST Collection *100/ GST Collection of respective month. ----- (5)

Table 3.9 contains information regarding the share of the Shakti scheme in total GST collected. The first column gives the month, the second column denotes GST collection for the corresponding month and the third column represents the share of the Shakti scheme in the GST collected.

Table 3.9: Share of Shakti scheme in SGST revenue collections, Karnataka State, 2023-24

Month	GST Collection (Rs. in Crs)	Share of Shakti scheme (%)
July	5643.62	0.30
August	5275.3	0.32
September	5309.17	0.32
October	7412.39	0.23
November	5701.74	0.30
December	5762.07	0.30
January	6744.11	0.25
February	6403.41	0.27
March	6480.44	0.26
Total		2.55

Source: Researcher's computations

The above calculations show that the Shakti scheme has contributed to 2.55% in the Karnataka state's SGST collection in the financial year 2023-24 since its inception.

3.2 Data Unadjusted Revenue Effect (DURE):

As discussed earlier, the research was started in November 2023 but the HCES 2022-23 report was published in the public domain on 19th June 2024. Therefore, the commodity-wise consumption expenditure data available in the HCES 2011-12 report was used to adjust the data as shown in section 3.1 to calculate the approximate GST collection. Subsequent to this, the following calculations show the GST collection based on the 68th round of HCES 2022-23 data released by NSSO.

Table 3.10: Monthly Consumption by Commodity items under Shakti scheme, Karnataka State, 2022-23

Sl. No	Commodity	Rural		Urban	
		% of expense in MPCE	Monthly Consumption (Rs. in crs)	% of expense in MPCE	Monthly Consumption (Rs. in crs)
1	Cereals	4.35	108.12	3.30	62.53
2	Cereal Substitutes	0	-	0.00	-
3	Gram	0.26	6.46	0.16	3.03
4	Pulses and Pulse Products	1.93	47.97	1.18	22.36
5	Sugar	0.83	20.63	0.45	8.53
6	Salt	0.09	2.24	0.06	1.14
7	Milk and Milk Products	5.32	132.22	4.34	82.24
8	Vegetables	5.02	124.77	3.12	59.12
9	Fruits (Fresh)	3.17	78.79	2.67	50.59
10	Fruits (Dry)	1.36	33.80	1.27	24.07
11	Egg, fish and meat	5.06	125.76	3.81	72.20
12	Edible oil	2.98	74.07	1.93	36.57
13	Spices	3.15	78.29	2.20	41.69
14	Beverages, Refreshments etc.,	11.41	283.59	12.00	227.39
15	Food (total) (A)	44.93	1116.70	36.49	691.46
16	Pan, Tobacco and intoxicants	4.41	109.61	2.63	49.84
17	Fuel and Light	5.83	144.90	4.64	87.93
18	Toilet Articles	2.58	64.12	2.65	50.22
19	Other Household Consumables	2.75	68.35	2.20	41.69
20	Education	2.82	70.09	7.63	144.58
21	Medical (Hospitalisation)	3.19	79.28	1.74	32.97
22	Medical (Non-Hospitalisation)	3.65	90.72	2.98	56.47
23	Conveyance	8.61	213.99	8.66	164.10
24	Consumer Services excl. Conv	5.23	129.99	6.27	118.81
25	Entertainment	1.56	38.77	1.76	33.35
26	Rent	0.96	23.86	11.37	215.45
27	Other taxes and cesses	0.32	7.95	0.38	7.20
28	Clothing & bedding	4.36	108.36	3.70	70.11

29	Footwear	0.75	18.64	0.67	12.70
30	Durable Goods	8.05	200.08	6.23	118.05
31	Non-food: Total (B)	55.07	1368.73	63.51	1,203.48
32	Total (Non-Food Items) (A+B)	100	2485.42	100	1894.94

Source: Researchers Computations

Table 3.11: Revenue Effect of Shakti scheme, Karnataka State, 2022-23

Sl. No	Commodity	GST rates	Rural		Urban	
			Monthly Consumption (Rs. in crs)	GST Contribution (Rs. in crs)	Monthly Consumption (Rs. in crs)	GST Contribution (Rs. in crs)
1	Sugar	5	20.63	1.03	8.53	0.43
2	Milk and Milk Products	5	132.22	6.61	82.24	4.11
3	Fruits (Dry)	5	33.80	1.69	24.07	1.20
4	Edible oil	5	74.07	3.70	36.57	1.83
5	Spices	5	78.29	3.91	41.69	2.08
6	Beverages, Refreshments etc.,	5	283.59	14.18	227.39	11.37
7	Pan, Tobacco and intoxicants	28	109.61	30.69	49.84	13.95
8	Fuel and Light	5	144.90	7.24	87.93	4.40
9	Toilet Articles	18	64.12	11.54	50.22	9.04
10	Other Household Consumables	18	68.35	12.30	41.69	7.50
11	Conveyance	5	213.99	10.70	164.10	8.21
12	Consumer Services excl. Conv	18	129.99	23.40	118.81	21.39
13	Entertainment	18	38.77	6.98	33.35	6.00
14	Clothing & bedding	5	108.36	5.42	70.11	3.51
15	Footwear	5	18.64	0.93	12.70	0.63
16	Durable Goods	28	200.08	56.02	118.05	33.06
	Total			196.34		128.71

Source: Researchers computations

Tables 3.10 and 3.11 shows the aggregate commodity-wise monthly consumption expenditure of the households of Karnataka in 2022-23 from the total ticket value generated under the Shakti scheme presuming it to be the amount saved and spent by the households and the revenue effect based on such consumption respectively. The proportion of commodity-wise expenditure is obtained from the detailed NSSO report no. 591, HCES: 2022-23. Since the commodity-wise expenditure is directly given in this report, there is no need to adjust the consumption expenditure data. Hence, the GST collected using such an unadjusted data comes up to Rs. 168.46 crores. This will also include share of CGST and SGST. Therefore, the state's share in the GST collected is Rs. 162.53 cr. After adjusting for the tax devolution by the Central Government, the adjusted GST from Shakti scheme would be Rs. 168.46 cr (3.647% of 162.53+ 162.53). This amount is

marginally higher than the GST obtained from the Data Adjusted Revenue.

Table 3.12: Share of Shakti scheme in SGST revenue collections, Karnataka State, 2023-24

Month	GST Collection (Rs. in Crs)	Share of Shakti scheme (%)
July	5643.62	0.33
August	5275.3	0.33
September	5309.17	0.33
October	7412.39	0.23
November	5701.74	0.31
December	5762.07	0.30
January	6744.11	0.26
February	6403.41	0.27
March	6480.44	0.27
Total		2.63

Source: Researchers computations

The above calculations show that the GST contribution from the unadjusted consumption expenditure of the Shakti scheme is 2.63%, which was 2.55% when calculated using the adjusted consumption expenditure data. This difference is due to the change in the proportion of expenditure on food and non-food items from 2011-12 to 2022-23. According to the HCES 2011-12 report, the consumption expenditure on food items in urban areas was 40.08% and 51.35% in rural areas. This has declined to 36.49% and 44.93% in urban and rural areas respectively in 2022-23. The GST on regularly consumed food items and other necessary goods is either nil or nominal, and on non-food items is marginally higher. Hence, the collection of GST is higher by 0.08% when the unadjusted consumption expenditure data is used.

The analysis of the revenue effect of the Shakti scheme reveals that the scheme has a positive revenue effect on the Government of Karnataka. Although the Shakti scheme has boosted the tourism revenue of the State government, the latest data regarding tourism development is not available in the public domain. Therefore, this study has only considered the revenue through GST collection by the government.

Chapter 4 : Fiscal Effect of Shakti Scheme: Expenditure Effect

4.1: Expenditure Effect

The assessment of total budgetary allocation or expenditure incurred in implementing a scheme or a program is called the expenditure effect of the program.

The expenditure effect of the Shakti scheme on GoK is assessed by analysing budget allocation in the following ways:

- 1) Proportion of the allocation for the Shakti scheme to the State Budget and Gender Budget.
- 2) Proportion of allocation for the Shakti scheme to the fiscal indicators as defined in Medium-Term Fiscal Policy.
- 3) Proportion of revenue generated from the Shakti scheme to the expenditure made on the scheme.

Unless stated otherwise, all the following results are obtained by using the revenue effect with adjusted consumption expenditure data in chapter 3.

4.1.1. Proportion of the allocation for the Shakti scheme to the State Budget and Gender Budget

The expenditure effect is assessed using the Annual Financial Statements/ Budget documents. The details of the size of the budget allocation to the Shakti scheme are extracted from Major Head of Account 3055 of Volume 1 of Demand-Wise detailed budget estimates of expenditure for 2023-24 and 2024-25 of the Government of Karnataka. The demand-wise detailed budget estimates of expenditure are given in seven volumes. Each contains the demand estimates from different departments under the State Government. Out of these, Volume 1 contains the demand estimates of six different departments with 51 major heads of accounts. Heads of Accounts are the specific functions or services of the government under the accounts of consolidated and public funds which are grouped into different sectors based on the kind of functions for ease of identifying and record keeping. Mainly there are four heads of accounts viz., Receipt head (Revenue Account), Expenditure head (Revenue Account), Expenditure head (Capital Account) and Public debt, loans and advances. These heads of accounts are again sub-divided into Major heads of accounts. Like this, there is a six-tier system for dividing the transactions of the Government.

The Karnataka government have altogether earmarked Rs. 33468 crores in 2023-24 (RE) and Rs. 52009 crores in 2024-25 (BE) for the proposed guarantee schemes. This is almost 11.33% of the total expenditure and 14% of the revenue expenditure for 2023-24 (RE). This allocation has been increased in the budgeted estimates of 2024-25 to 15% and 18% of the total expenditure and revenue expenditure respectively.

In India, women represent nearly 49% of the population. Still, there exists a gender gap as we can see that women are facing disparities in accessing many services and resources. To address the issue of gender equality, the Government of India has proposed an idea of Gender responsive budgeting or Gender budgeting. “Gender Budget is a tool for gender mainstreaming which uses the budget as an entry point to apply a gender lens to the entire policy process. In short, it covers analysing various economic policies of the government from a gender perspective”. (Economic and Financial Affairs Wing, Lok Sabha Secretariat, 2016) Karnataka is one of the early adopters

of Gender Budget. The GoK started preparing the Gender Budget in 2006-07. The gender budget comprises two categories: category A encompasses schemes that allot 100 per cent of the funds for women. Category B consists of schemes that allocate at least 30 per cent of funds for women. Since the Shakti scheme falls under category A schemes, the full allocation for the scheme is considered for calculation of the proportion of allocation under the Gender budget.

The total amount allocated for the Shakti scheme in 2023-24 (July) is Rs.2,800 cr. and in 2024-25 (BE) is Rs.5,015 cr. This is 8.3% in 2023-24 (RE) and 9.6% in 2024-25 (BE) out of the amount allocated to the guarantees altogether. The percentage share of the Shakti scheme in the total budget allocation and the gender budget is calculated below.

- % share of allocation of Shakti scheme in the total budget (2023-24) = $(2800 \times 100) / 3,27,474 = 0.85\%$
- % share of allocation of Shakti scheme in gender budget (2023-24) = $(2800 \times 100) / 70,427 = 4\%$

The above calculations show that 0.85% of the total budget and 4% of the gender budget 2023-24 was allotted to the Shakti scheme. However, the actual expenditure is Rs. 4380.37 crores which is 1.33% of the state budget and 6.22% of gender budget. The percentage share of the Shakti scheme in the budget estimates of 2024-25 will be as follows:

- % share of allocation of Shakti scheme in the total budget 2024-25 = $(5,015 \times 100) / 3,71,383 = 1.35\%$
- % share of allocation of Shakti scheme in gender budget 2024-25 = $(5,015 \times 100) / 86,423 = 5.80\%$

From the above calculations, we know that 1.35% of the total budget and 5.80% of the gender budget 2023-24 was allotted to the Shakti scheme.

The GoK has initiated a practice of preparing a Child Budget to analyse the child-focused budget allocations and expenditure in the overall expenditure budget in particular and in fiscal policy from 2020-21. This will also help in improving the current year's allocation as compared to the expenditure on similar programmes and schemes in the financial year. Like the Gender Budget, the Child Budget also comprises two categories. viz., 100% child-centric programmes or schemes and less than 100% child-centric programmes or schemes. As the Shakti scheme excludes boy children, it falls under less than 100% programmes. However, as neither there is a separate allocation nor the details of the ticket value of girl children are available, the proportion of allocation to the Shakti scheme in the Child Budget cannot be calculated separately.

4.1.2 Proportion of allocation for the Shakti scheme to the fiscal indicators as defined in Medium-Term Fiscal Policy.

In 2003, the Government of India implemented the Fiscal Responsibility and Budget Management Act (FRBM) to keep check on the rising revenue deficit and fiscal deficits. This Act mandates the Governments to present three documents along with the budget every year. They are: (1) Medium Term Fiscal Policy Statement (MTFP), (2) Fiscal Policy Strategy Statement (FPS) and (3) Macroeconomic Framework Statement (MFS). The MTFP contains the underlying assumptions and the broad framework to maintain the balance between the receipts

and expenditures of governments. It lays down the projected fiscal indicators to reach the fiscal targets as prescribed under the FRBM Act, 2003.

The MTFP makes the 3-year rolling projection of four fiscal indicators or parameters in relation to the Gross Domestic Product (GDP) at market prices. They are: (1) Revenue Deficit, (2) Fiscal Deficit, (3) Tax to GDP Ratio, (4) Total outstanding debt at the end of the year. Since the Shakti scheme affects the expenditure of the Government of Karnataka it is crucial to analyse the effect in terms of these fiscal indicators. The following section discusses the effect of the Shakti scheme on these fiscal indicators.

4.1.2.a: Revenue Deficit

The Revenue Deficit refers to the excess of the Government's revenue expenditure over the revenue receipts. Revenue expenditures are incurred to meet expenses other than the physical creation of assets like interest payments, administrative expenses of government, payment of salaries, pensions and social security pensions etc.,. The guarantee schemes take 0.42% of revenue expenditure. The share of the Shakti scheme in total revenue expenditure is 1.16% in 2023-24 (RE) and 1.72% in 2024-25 (BE). The revenue receipts are mobilised through taxes, interests, dividends and profits on government investments. The Shakti scheme contributes Rs. 309.64 crores in the GST collected by the GoK in the span of 10 months i.e.; from June 2023 to March 2024.

Table 4.1 shows the calculation of the % share of Shakti scheme in revenue deficit as per the revised estimates for 2023-24 and the budgeted estimates for 2024-25.

Table 4.1: Share of Shakti scheme in Revenue Deficit (%) in GoK

Sl. no	Particulars	2023-24 (RE) (Rs. in cr.)	2024-25 (BE) (Rs. in cr.)
1	Revenue Deficit of Karnataka State	13951	27354
2	Allocation for Shakti scheme/ Expenditure	4380.37	5015
3	% Share of Shakti scheme in total revenue deficit	31.39	18.33

Source: Medium-Term Fiscal Policy Statement. Medium-Term Fiscal Projection 2024-28

The amount allocated to the Shakti scheme is 20.07% of total revenue deficit in 2023-24 and the allocation for 2024-25 is 18.33% revenue deficit.

The revenue expenditure also includes the committed expenditure of GoK which constitutes the expenses that cannot be avoided by the government. As per the MTFP projections 2024-28, the total committed expenditure for 2023-24 (RE) is Rs.223816 cr. and for 2024-25 (BE) is Rs. 270483 cr. This forms 92 % of revenue expenditure in 2023-24 (RE) and 93% in 2024-25 (BE) and out of this the guarantees amount to 15% and 19.2% in 2023-24 (RE) and 2024-25 (BE) respectively, which is quite high.

4.1.2.b: Fiscal Deficit

Fiscal deficit refers to the difference in the government's total expenditure and the total receipts. This excludes the principal repayment (for expenditure) and borrowings (in receipts). The fiscal deficit is projected to be 2.67% for 2023-24 (RE) and 2.95% for 2024-25 (BE) as per the MTFP

projection for 2024-28. This is within the limits of the mandated 3% as per the Karnataka Fiscal Responsibility Act, 2002.

The fiscal deficit of the Karnataka state is Rs. 68505 cr in 2023-24 (RE) and it is estimated to be Rs. 82981 cr in 2024-25 (BE). The net fiscal effect is calculated by way of analysing the budget allocation. The net fiscal impact is calculated by subtracting the revenue generated by the scheme for the government due to the elevated spending by the people from the expenditure incurred on the scheme.

Net Fiscal Effect with Adjusted Consumption Expenditure Data

(a)Net Fiscal Impact for 2023-24

$$\begin{aligned}\text{Net Fiscal Impact (2023-24)} &= 4380.37 \text{ Cr.} - 153.48 \text{ Cr.} \\ &= \text{Rs.}4226.89 \text{ Cr}\end{aligned}$$

Assuming that the people would spend the amount in the same proportion in 2024-25 and the GST collection will also be as same as in 2023-24, the following will be the approximate net fiscal impact in 2024-25.

(b)Net Fiscal Impact for 2024-25

$$\begin{aligned}\text{Net Fiscal Impact (2024-25)} &= 5015 \text{ Cr.} - 204.64 \text{ Cr} \\ &= \text{Rs.}4810.36 \text{ Cr.}\end{aligned}$$

The above calculations show the fiscal gap of the Shakti scheme. Table 4.2 provides the share of the Shakti scheme in fiscal deficit of the Karnataka Government.

Net Fiscal Impact without Adjusting for Consumption Expenditure Data:

(c)Net Fiscal Impact for 2023-24:

$$\begin{aligned}\text{Net Fiscal Impact (2023-24)} &= 4380.37 \text{ Cr.} - 168.46 \text{ Cr.} \\ &= \text{Rs.}4211.91 \text{ Cr}\end{aligned}$$

(d)Net Fiscal Impact for 2024-25:

$$\begin{aligned}\text{Net Fiscal Impact (2024-25)} &= 5015 \text{ Cr.} - 202.15 \text{ Cr.} \\ &= \text{Rs.}4812.85 \text{ Cr}\end{aligned}$$

The net fiscal impact for FY 2023-24 (RE) would be Rs. 4211.91 cr. when calculated for data unadjusted revenue effect and for FY 2024-25 it would be Rs. 4812.85 cr.

Table 4.2: Share of Shakti scheme in Fiscal Deficit (%) in GoK

Sl. no	Particulars	2023-24 (RE) (Rs. in crs.)	2024-25 (BE) (Rs. in crs.)	2023-24 (RE) (Rs. in crs.) (DURE)	2024-25 (BE) (Rs. in crs.) (DURE)
1	Fiscal Deficit of Karnataka State	68505	82981	68505	82891
2	Fiscal Effect (Expenditure - revenue generated)	4226.89	4810.36	4211.91	4812.85
3	% Share of Shakti scheme in Fiscal deficit	6.17	5.81	6.15	5.81

Source: Medium-Term Fiscal Policy Statement. Medium-Term Fiscal Projection 2024-28

Table 4.2 indicates, assuming that the rest of the things remain constant, in the total fiscal deficit of Karnataka, 6.17% is because of the Shakti scheme in 2023-24 (RE) and 5.81% in 2024-25 (BE).

4.1.2.c: Total Liabilities

Liabilities are the obligations on the part of the Government. These include interest and principal payment on the borrowings, deferred payments to any outsiders, outstanding salaries, payments on social security pensions of government guarantees etc.,

Table 4.3: Share of Shakti scheme in Total Liabilities in GoK

Sl. no	Particulars	2023-24 (RE) (Rs. in Crores)	2024-25 (BE) (Amt in Crores)
1	Total Liabilities at the end of the year	581228	665095
2	Allocation for Shakti scheme/ Expenditure	4380.37	5015
3	% share of Shakti scheme in Total Liabilities at the End of the year	0.75	0.75

Source: Medium-Term Fiscal Policy Statement. Medium-Term Fiscal Projection 2024-28

Table 4.3 depicts that the allocation made for the Shakti scheme is 0.75% of Karnataka's total liabilities at end of 2023-24 and 0.75% at the end of 2024-25.

4.1.3: Assessment of proportion of revenue to expenditure (With adjustment of consumption expenditure data):

The net fiscal effect is analysed in two ways. One is by way of analysing the budget allocation. The net fiscal impact of the Shakti scheme is calculated by subtracting the revenue generated by the scheme for the government due to the elevated spending by the people from the expenditure incurred on the scheme.

$$\begin{aligned} \text{Revenue effect (2023-24)} &= \frac{\text{Total Revenue}}{\text{Total Expenditure}} \times 100 \\ &= \frac{153.48}{4380.37} = 3.50\% \end{aligned}$$

$$\text{Revenue effect (2024-25)} = \frac{\text{Total Revenue}}{\text{Total Expenditure}} \times 100$$

$$= \frac{202.15}{5015} = 4.03\%$$

The above calculations on the ratio of revenue of Shakti scheme to expenses show that during 2023-24, the state government has recovered 3.50% of the expenses out of the total expenses made and in the financial year 2024-25 it is expected to receive 4.03% of the expenses.

4.1.4: Assessment of proportion of revenue to expenditure (Without adjusting for consumption expenditure data):

$$\begin{aligned} \text{Revenue effect (2023-24) Without adjusting consumption expenditure} &= \frac{\text{Total Revenue}}{\text{Total Expenditure}} \times 100 \\ &= \frac{168.46}{4380.37} = 3.85\% \end{aligned}$$

$$\begin{aligned} \text{Revenue effect (2024-25) Without adjusting consumption expenditure} &= \frac{\text{Total Revenue}}{\text{Total Expenditure}} \times 100 \\ &= \frac{202.15}{5015} = 4.03\% \end{aligned}$$

The above calculations on the ratio of revenue of Shakti scheme to expenses show that during 2023-24 the state government has recovered 3.85% of the expenses out of the total expenses made and in the financial year 2024-25 it is expected to receive 4.03% of the expenses.

4.2: Comparison of Revenue and Expenditure effects with and without adjusting consumption expenditure data

Table 4.4 gives the comparison of the revenue and expenditure effect with and without adjusting for the consumption expenditure data.

Table 4.4: Comparison of the revenue effects with and without adjusting consumption expenditure data

Particulars	Adjusted Revenue Effect	Unadjusted Revenue Effect
Total GST collection	153.48 cr	168.46 cr
Share in GST Collection	2.55%	2.63%
Net Fiscal Impact (2023-24) (RE)	4226.89 cr	4211.91 cr
Fiscal Deficit	6.17%	6.15%
Proportion of revenue to expenditure	3.50%	3.85%

Source: Compiled by Researcher.

The size effects of the MPCE were already accounted for while adjusting the consumption patterns for 2022-23 i.e; the data adjusted consumption expenditure is calculated by taking the amount of MPCE of 2022-23 for Karnataka as given in the Key Highlights of HCES 2022-23, and this amount was divided based on the proportion of item-wise consumption of 2011-12 to obtain the approximate break up of the commodity expenditure for 2022-23. Therefore, there are no remarkable changes in the GST collection and expenditure effect of unadjusted revenue effects. This also indicates that there are nominal changes in the commodity consumption patterns of 2011-12 and 2022-23.

On the expenditure side, the Shakti scheme causes a significant fiscal burden on the state government. However, the welfare effects of the scheme should also be considered as the scheme's main intention is to offer social benefits. The non-fiscal implications of the Shakti scheme on BMTC and Female Labour Force Participation are analysed in the subsequent chapters.

Chapter 5 : Non-fiscal effects of the Shakti Scheme

From the previous chapters, we know that the Shakti scheme has a sizeable impact on the expenditure of the State. The main objective of the Shakti scheme is to attain women's empowerment by offering free mobility to them. At the same time, there is an implied effect on the RTCs too, as the surged ridership will increase the traffic revenue of the RTCs. Therefore these non-fiscal effects of the Shakti scheme on the Government of Karnataka are analysed using the Female Labour Force Participation Rate and financial statements of BMTC.

This chapter is divided into two sections. The first section of the chapter deals with the Financial Management of BMTC and the second section deals with the measurement of the effect on women empowerment in terms of Labour Force Participation Rate.

5.1: Implication of the Shakti scheme on Financial Management of BMTC

The Shakti scheme is being implemented through the Karnataka State Road Transport Corporation and its subsidiaries. The Karnataka State Road Transport Corporation has three subsidiary units, namely NEKRTC, KKRTC and BMTC. The BMTC (Bangalore Metropolitan Transport Corporation) is a public transport provider for Bengaluru city serving urban, sub-urban and rural areas of the city with 6074 buses and 5598 schedules (as on March 9th, 2024). The bus services are provided for convenient travelling for the public. It offers a daily service of 11.14 lakh kms with an average number of 60,623 trips generating a revenue of Rs. 5.28 crores per day. As on 09th March 2024, 28,820 employees work at BMTC.

The Shakti scheme offers mutual benefit to state-run road transport corporations and the eligible beneficiaries. While the passenger traffic has increased for the RTCs, the eligible beneficiaries are getting freedom of mobility and some amount of savings on their travel fares. A study by JustJobs Network in association with the Fiscal Policy Institute reveals that the scheme has resulted in savings per month of Rs. 600/- to Rs.1362/- for women. The women are using free bus services for various purposes like payment of utility bills, for visiting pilgrimage sites, leisurely travelling, and visiting family members. The study also reveals that 10% of the female passengers have used the free bus services for leisurely travelling. These leisurely visits will also improve tourism.

Finance is the lifeblood of any business. The primary goal of a finance manager is to maximise the wealth and profit of the business with the existing resources. Liquidity is also one of the important aspects of business as it indicates the creditworthiness of the company. These parameters of a company are examined with the help of financial analysis. Financial analysis is the process of identifying the financial strengths and weaknesses of a firm by analysing the relationship between the items of the balance sheet and the profit and loss account. It helps to assess the stability and performance of a company in terms of management of its financial resources.

To assess the implication of the Shakti scheme, it is important to understand the present financial status of an organisation so that it can be compared to the corporation's status after the scheme has been implemented.

Therefore, the financial analysis of BMTC is carried out using the ratio analysis to determine the financial stability, liquidity, and profitability of BMTC before implementation of the scheme.

5.1.1: Ratio Analysis

In the finance sense, the ratio analysis reveals the relationship between the different items of the balance sheet and the profit and loss account. It is one of the most widely used methods of financial analysis. Financial ratios are grouped into various classes based on the financial activity or function to be evaluated. Based on the information required and on the availability of the data, we have used some selected ratios to analyse the performance of BMTC. The following are the ratios used in this study:

- Current Ratio
- Quick Ratio
- Debt-Equity Ratio
- Debt Servicing Ratio
- Return on Equity
- Net Capital Turnover Ratio
- Net Profit Ratio
- Return on Capital Employed
- Return on Investment

The financial information required for the calculation of different ratios is obtained from the financial statements of the BMTC as published in their 24th, 25th, 26th Annual Administration Reports. These reports are extracted from www.mybmtc.karnataka.gov.in. The BMTC was approached to seek the financial statements for the FY 2023-24, but could not give them as the statements are still under the finalisation stage.

Current Ratio

Liquidity is a very important aspect of any firm as it reveals the readiness of a firm to meet the immediate cash requirements. If a company fails to fulfil such a requirement, then it loses its creditworthiness which affects the business adversely. To know the liquidity of the firm, the current ratio is used. It is obtained by dividing the current assets by current liabilities of a company during a particular period. Ideally, it should be 2:1.

Table 5.1: Current Ratio of BMTC from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
Current Assets	43502	39595.17	93785.13
Current Liabilities	128990	139835.5	164192.7
Current Ratio	0.33725	0.283155	0.571189

Source: Researcher's computations

The current ratios are less than the ideal ratio (2:1) for both financial years which indicates that the BMTC does not have sufficient liquidity to meet its near cash requirements, although it has increased from 0.28 to 0.57 in FY 2022-23.

Quick Ratio

This ratio establishes a relationship between the quick assets or liquid assets to current liabilities. An asset is liquid if it can be converted to cash immediately without loss of any value. Except

inventories, all cash and cash equivalent assets are considered as liquid assets. A quick ratio of 1:1 is considered satisfactory for a firm.

Table 5.2: Quick Ratio of BMTC from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
Liquid Assets	40590.22	36531.38	89725.13
Current Liabilities	128989.7	139835.5	164192.7
Quick Ratio	0.314678	0.261245	0.546

Source: Researcher's computations

The quick ratio is less than 1 for all the years. This indicates that the BMTC does not have sufficient liquidity to meet its immediate cash requirements.

Debt-Equity Ratio

Short-term and long-term creditors of a business like trade creditors, debenture holders and bankers would be very much interested in knowing the debt-paying ability and the financial strength of the company. Debt-equity ratio describes the relationship of the lender's contribution for each rupee of an owner's contribution. It shows the extent to which debt financing is being used. A lower debt-equity ratio is desirable because a high ratio shows greater claims of creditors than owners, indicating difficulty for the company in borrowing funds.

Table 5.3: Debt-Equity Ratio of BMTC from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
Total Debt	94456.18	95780.54	79782.22
Shareholders' Equity	87521.47	85201.79	85697.4
Debt- Equity Ratio	1.08	1.12	0.93

Source: Researcher's computations

The debt-equity ratio has declined from 2021-22 to 2022-23. This shows that the BMTC has repaid a part of the debt. This also indicates that BMTC's indebtedness is decreasing and the shareholders get comparably more share in the profit as the decrease in debt would lead to reduced burden of interest payments.

Debt-Servicing Ratio

Debt service refers to the money required to pay the principal and interest on an outstanding debt for a particular period. It helps in assessing the risk arising out of using debt capital. It measures the firm's ability to pay its debt obligations. Ideally it should be 2.

Table 5.4: Debt-Servicing Ratio of BMTC from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
Net Operating Income	-1686.19	-1872.01	10075.04
Total Debt	94456.18	95780.54	79782.22
Debt Service Coverage Ratio	-0.02	-0.02	0.12

Source: Researcher's computations

The DSCR for BMTC for 2022-23 is 0.12, which is higher than the previous years. The negative DSCR for 2020-21 and 2021-22 is because of the losses faced by BMTC during these financial years. The positive DSCR for 2022-23 indicates that debt servicing capacity of BMTC has increased.

Return on Equity

The return on equity measures the profitability of equity funds invested in a firm. It indicates how well the firm has used the amount invested by the owners. It is obtained by dividing the profit after taxes of the firm by its net worth.

Table 5.5: Return on Equity Ratio of BMTC from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
Profit after taxes	-16419.98	-17824.54	-7737.70
Net worth	87521.47	85201.79	144340.5
Return on Equity	-0.18	-0.21	-0.05

Source: Researcher's computations

The Return on equity has increased in FY 2022-23 than in 2021-22. This can be attributed to a reduction in losses of BMTC during 2022-23 when compared with the previous year.

Net Capital Turnover Ratio

The capital turnover ratio is a relationship between the net sales of the firm and its total shareholder's equity. It indicates the firm's ability to use its equity funding to generate sales. It estimates the operating efficiency of a company through its allocation of equity capital.

Table 5.6: Net Capital Turnover Ratio of BMTC from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
Net Revenue	-16419.98	-17824.54	-7737.70
Total shareholder's equity	87521.47	85201.79	85697.4
Net Capital Turnover Ratio	-0.18	-0.21	-0.09

Source: Researcher's computations

Ideally, net capital turnover ratio should be more than 1, signifying the company's ability to produce more sales for every rupee of capital employed. The net capital turnover ratio has increased from -0.21 in 2021-22 to -0.09 in 2022-23 but remained less than 1.

Net Profit Ratio

Net profit ratio is measured by dividing the profit after tax by sales. It establishes the relationship between net profit and sales and indicates the management's efficiency in operating and administering the services. It is desirable that a firm or company always have a higher net profit margin.

Table 5.7: Net Profit Ratio of BMTC from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
Net Profit	-16419.98	-17824.54	-7737.70
Net Sales	69976.42	92249.14	162184.65
NPR	-23.465019	-19.322175	-4.00

Source: Researcher's computations

The net profit ratio is negative indicating the losses for BMTC. However, the losses have decreased in FY 2022-23 when compared to 2021-22.

Return on Capital Employed

Return on Capital Employed (RoCE) is a ratio that measures a company's profitability and efficiency with which its capital is employed. RoCE is calculated by dividing a company's Earnings Before Interest and Tax (EBIT) by the capital employed.

Table 5.8: Return on capital employed of BMTC from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
Profit Before Interest and Tax	-115954.27	-106283.52	-119764.26
Average Total Assets	453660.08	460373.59	523105.93
ROCE	-25.5597252	-23.086363	-22.89483

Source: Researcher's computations

The ROCE is a negative figure indicating that BMTC has been running under loss. However, the losses have decreased in FY 2022-23 when compared to previous years.

Return on Investment (ROI)

It indicates a relationship between earnings and total assets or net assets. ROI measures the profitability of a firm. It is calculated by dividing the earnings of the firm by its total assets.

Table 5.9: Calculation of return on investment from 2020-21 to 2022-23

	Covid Period	Recovery Period	
Particulars	2020-21	2021-22	2022-23
EBIT	-16419.98	-17824.54	-7737.70
Total Assets	313137.46	344739.21	413040.63
ROI	-5.24	-5.17	-1.87

Source: Researcher's computations

The above table indicates that the ROI for BMTC in the financial year 2022-23 is -1.87 which is more than the previous year. The losses are decreasing year on year.

The study till now shows the financial status of BMTC before the implementation of the Shakti scheme. However, the ratio analysis cannot be used further as the financial statements for 2023-24 would still be under auditing. Therefore, the impact of the Shakti scheme on the financial performance of BMTC is assessed using the physical performance indicators of BMTC as given on the website of BMTC.

5.1.2: Financial Performance of BMTC after implementing the Shakti scheme

BMTC have various physical performance indicators to quantify the operational efficiency of the corporation such as effective kilometres per day, traffic revenue, gross revenue, cost of operation, vehicle utilisation and passengers carried per day.

Table 5.10 details the Effective km per day, Traffic revenue, Gross revenue, cost of operation, vehicle utilisation and passengers carried per day in BMTC from 2017-18 to 2023-24. The figures for 2017-18 to 2022-23 are directly taken from the physical performance indicators report of BMTC provided on the website of BMTC, and for 2023-24 the figures are approximated based on the provisional figures provided by the BMTC till January 2024 as follows:

Key performance indicator (y) for 2023-24 = $y \times 12/10$ ----- (6)

Let y be the key performance indicator, then the percentage change in the y in the following way:

% change in key performance indicator (y) = $\frac{y_1 - y_0}{y_0}$ ----- (7)

Where y_0 is the performance indicator for the base year and y_1 is the performance indicator for the subsequent year.

Table 5.10: Effective Kms per day, Traffic revenue, Gross revenue, cost of operation and vehicle utilisation, Passengers carried per day in BMTC from 2017-18 to 2023-24.

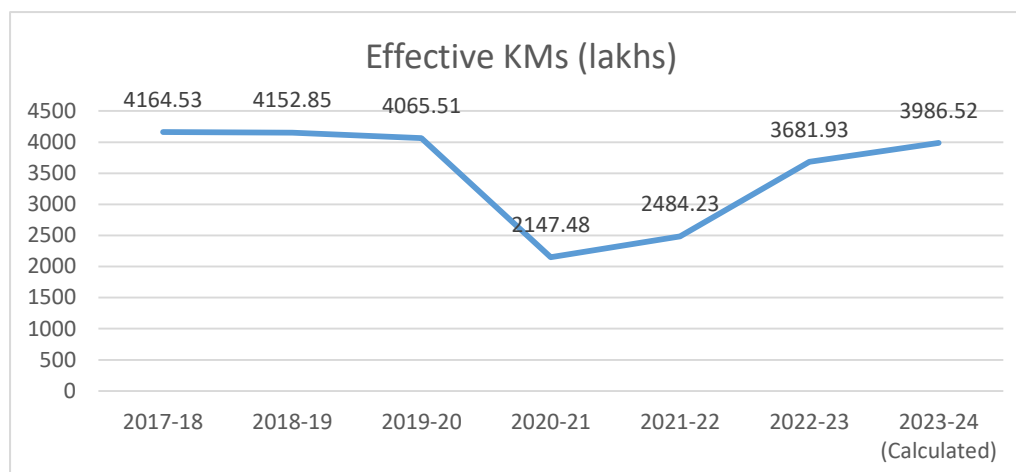
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24 (Calculated)
Effective KMs (lakhs)	4164.53	4152.85	4065.51	2147.48	2484.23	3681.93	3986.52
% Change		-0.28	-2.10	-47.18	15.68	48.21	8.27
Traffic Revenue (Rs. In lakhs)	176470.6	183884.04	180700	69976.42	92249.14	162185	202928.90
% Change		4.20	-1.73	-61.27	31.83	75.81	25.12
Gross Revenue (Rs. In lakhs)	222699.5	229329.55	211997	185305.9	211512.37	293766	419339.02
% Change		2.98	-7.56	-12.59	14.14	38.89	42.75
Cost of operation (Rs. In lakhs)	244461	264278.29	266931	201725.88	229336.91	301504	314067.04
% Change		8.11	1.00	-24.43	13.69	31.47	4.17
Vehicle Utilisation (Kms.)	203.8	202.6	200.4	161.9	171.7	186.1	243.72
% Change		-0.59	-1.09	-19.21	6.05	8.39	30.96
Passenger per day (in lakhs)	44.37	35	33.10	12.79	15.97	28.5	45
% Change		-21	-5	-61	25	78	58

Source: Researcher's computations

Effective kilometres per day is a measure of the total distance travelled in kilometres by bus to its capacity utilisation. It is a product of a number of kilometres run by bus during a particular period and the load carried by the bus. The performance indicators report shows that the effective kilometres for BMTC had decreased by 47.18% because of Covid-19 and has marginally recovered after the impact of the lockdown subsided. Again there is a hike of 22.80% in effective

kilometres for 2023-24. Assuming all other things remain constant, this change can be attributed to the introduction of the Shakti scheme. Figure 5.1 shows the graphical representation of the changes in effective kilometres of BMTC from 2017-18 to 2023-24.

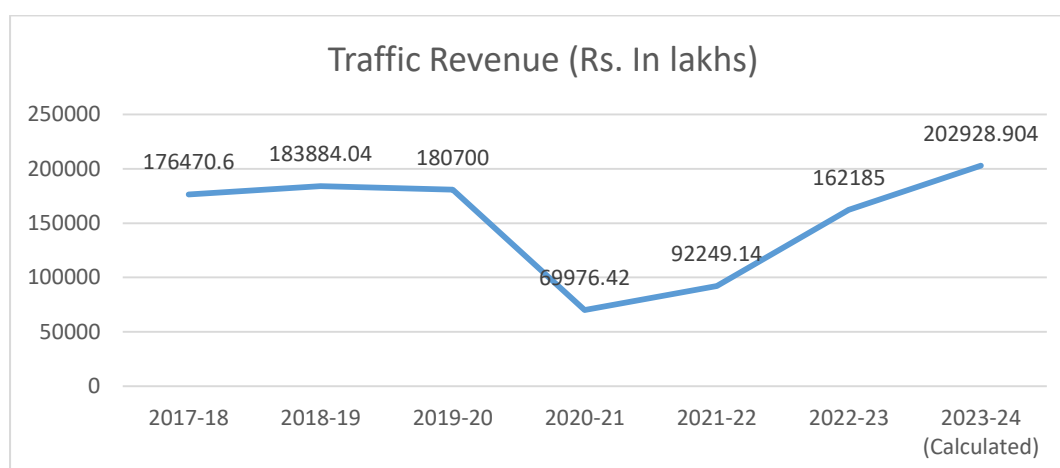
Figure 5.1: Trends in Effective KMs of BMTC from 2017-18 to 2023-24



Source: Researcher's computations

Traffic revenue is revenue generated by a transport corporation through passenger fares, carriage charges and fines collected from the passengers. The traffic revenue for BMTC was increasing till 2019-20. But in 2020-21 it fell by 61.27% because of the effect of Covid-19. The revenues started to recover in 2021-22 and in 2023-24 the gross revenue soared by 42.27%. It is assumed that the rest of the things remaining constant, the increase in revenue in 2023-24 is because of implementation of the Shakti scheme. From Table 5.10, we can observe that the highest increase in % traffic revenue is in 2022-23 because of the base effect. Figure 5.2 shows the graphical representation of the changes in traffic revenue of BMTC from 2017-18 to 2023-24.

Figure 5.2: Change in traffic revenue of BMTC from 2017-18 to 2023-24

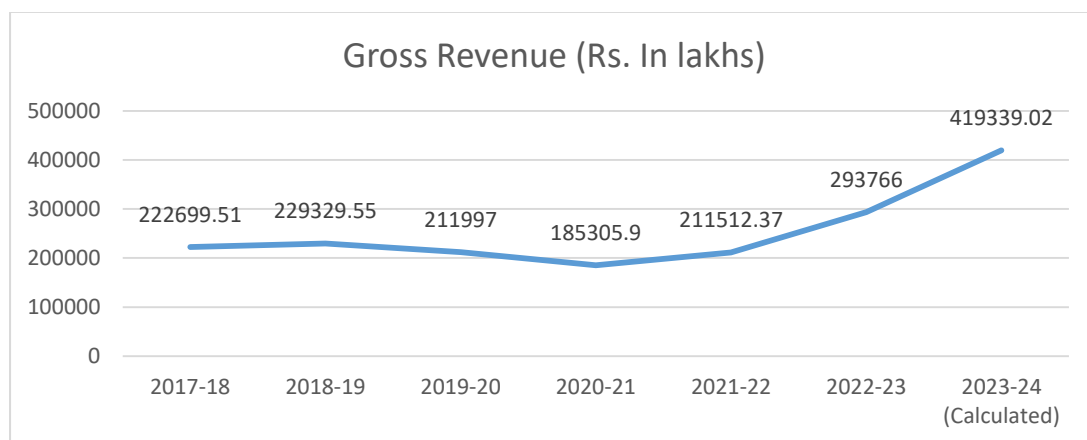


Source: Researcher's computations

Gross revenue includes the revenue generated from both traffic and non-traffic sources. Gross revenue was at its lowest during the pandemic period i.e.; in 2019-20 (decrease by 12.59%) and 2021-22 (14.14%). It started recovering in the post-pandemic period and it has increased by

42.75% in 2023-24 because of the implementation of the Shakti scheme. Figure 5.3 shows the graphical representation of the changes in gross revenue of BMTC from 2017-18 to 2023-24.

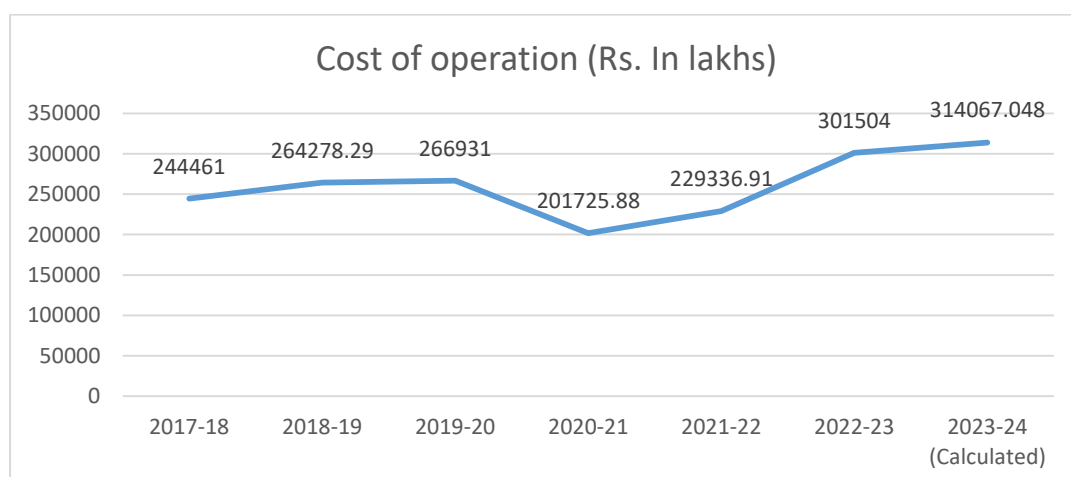
Figure 5.3: Change in gross revenue of BMTC from 2017-18 to 2023-24



Source: Researcher's computations

The cost of operation for BMTC has reduced considerably in 2010-21 (-24.43) because of the effect of lockdown during the pandemic. But again, there is a surge in the cost by 13.69% in 2020-21. The cost of operation has a lesser increase in 2023-24 when compared with the previous year 2022-23. This is because the ridership of the BMTC has been surged due to the implementation of the Shakti scheme and the fixed costs will get divided among the more number of passengers and thus the cost will come down. For a given investment, a rise in ridership is a contributor for increase in revenue and reduction in the cost of operation. Figure 4 shows the graphical representation of the changes in cost of operation of BMTC from 2017-18 to 2023-24.

Figure 5.4: Change in cost of operation of BMTC from 2017-18 to 2023-24

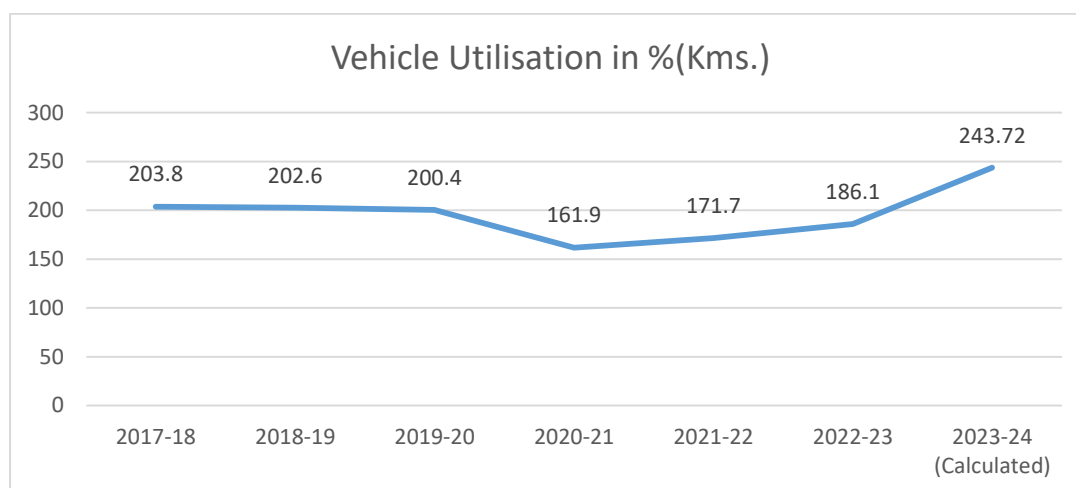


Source: Researcher's computations

Vehicle utilisation is a metric which measures the effectiveness of a fleet of vehicles in terms of their productivity and usage. It is calculated by dividing the actual usage of the vehicle by the potential capacity multiplied by 100. It is expressed as the percentage and indicates how many times the vehicles are utilised and how many times they are under-utilised. The vehicle utilisation rate of BMTC had been the least during the pandemic period i.e., 161% in 2020-21

because of the restrictions imposed by the government on the mobility of the people. But in 2023-24 i.e. after implementation of the Shakti scheme, the rate of vehicle utilisation has seen a rise of 86%. Figure 5.5 shows the graphical representation of the changes in vehicle utilisation in % of BMTC from 2017-18 to 2023-24.

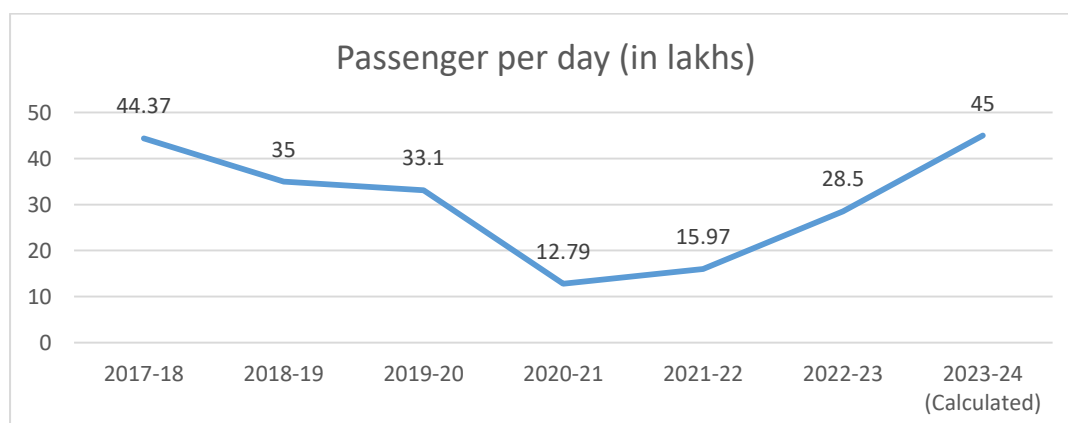
Figure 5.5: Change in vehicle utilisation from 2017-18 to 2023-24



Source: Researcher's computations

Passengers carried per day in lakhs by BMTC. In 2017-18 around 44.37 lakh passengers per day were carried by BMTC. The number gradually decreased and was at the lowest at 12.79 lakhs per day during the Covid period, because of restrictions imposed by the government on the mobility of people. The number started to increase in 2021-22. However, it has not yet reached normal levels. But after implementing the Shakti scheme, the number of passengers carried per day has surpassed the pre-Covid levels to 45 lakhs. This is clearly the effect of the Shakti scheme.

Figure 5.6: Change in passengers carried per day (in lakhs) from 2017-18 to 2023-24



Source: Researcher's computations

Ratios such as Current Ratio, Quick Ratio, Debt-Equity Ratio, Debt Service Coverage Ratio, and Operating Ratio are impacted by the timely receipts of Government reimbursement for free tickets issued by the BMTC. Otherwise, the short-term and long term financial management of BMTC may be challenged by the outstanding payments, debt and borrowings.

5.2: Implication of the Shakti scheme on women's empowerment

Women's empowerment can be defined as promoting women's sense of self-worth, their ability to determine their own choices, and right to influence social change for themselves and others. (World Vision, n.d.) It is making the women eligible to make strategic life decisions. Education, economic opportunities, health and well-being, decision making and leadership are the main components of women's empowerment. To achieve these, women must have freedom of mobility. The three major elements of women's mobility and accessibility are cost, personal security and time. Earlier, the female labour supply choices were constrained by the social norms. Institutional barriers and the need to balance work with family life (Goldin, 2023), safe modes of travel are also adding up to this in modern days. An ILO study stated that women's capacity to participate in paid work is positively correlated with transportation-related infrastructure. "Safe Mobility: A Way to Empower Women" by IWWAGE claims that the unavailability of safe and affordable modes of transportation is one of the major factors adversely affecting female workforce participation.

These studies substantiate that freedom of mobility is the key to women's empowerment. Safe and affordable modes of transportation will not only increase female participation in the labour force, but also provide them with an opportunity to actively contribute to the nation's economy. Thus, the impact of the Shakti scheme on women's empowerment will be assessed by analysing the changes in key employment indicators with respect to the state of Karnataka such as Labour Force Participation Rate (LFPR), Worker Population Rate (WPR) at the current weekly status. LFPR refers to the percentage of the working-age population that is either employed or looking for a job. It is that portion of the labour force which is employed or looking for job opportunities. Whereas, the WPR denotes the percentage of working or employed persons in the population. The LFPR and WPR are estimated in the Current Weekly Status (CWS)². While the LFPR and WPR refer to the employment status of the population, the UR denotes the percentage of persons unemployed in the labour force.

The rates of LFPR and WPR are extracted from the Quarterly Bulletin of Periodic Labour Force Survey (PLFS). PLFS was launched by the National Sample Survey Office (NSSO) in April 2017 for conducting periodic survey on the availability of the labour force in India. It gives the periodic estimates of Labour force indicators. The PLFS reports are generated annually as well as quarterly. The survey is conducted for the periods January- March, April- June, July- September and October- December quarters every year covering around 5,700 urban blocks which have 44,000 households. The survey follows the rotational sampling method. The quarterly PLFS is done only for urban areas and not for rural areas. However, the utilisation of paid transportation services is more in urban areas because in the expanded vicinities of urban areas people usually travel more to reach their workplaces. Therefore, the data on the urban labour force is sufficient for this analysis.

Tables 5.11 and 5.12 provide the quarterly comparison of the rates of these key indicators for the female, male and total population for five quarters starting from October- December 2022 to Oct- December 2023 of Karnataka and Kerala. The first three quarters pertain to before and the last two quarters refer to after the implementation of the Shakti scheme.

² Current Weekly Status (CWS): The activity status determined on the basis of a reference period of last 7 days preceding the date of survey is known as the current weekly status (CWS) of the person.

To isolate the effect of Shakti scheme on the Female Labour Force Participation Rate, we have compared the neighbouring states to Karnataka. The neighbouring states to Karnataka are Maharashtra, Tamil Nadu, Andhra Pradesh, Telangana and Kerala. Out of these states, except Kerala, the rest of the states have free or discounted bus ride for women schemes in state-run road transport buses. Therefore, we compare the status of labour force participation in percentage points (not in absolute figures) of Karnataka with Kerala. (Table 5.11 and 5.12)

Table 5.11: Quarterly Comparison of Labour Force Participation Rate (LFPR) of Karnataka and Kerala

State	Oct-Dec '22	Jan-Mar '23	Apr-June '23	July-Sept '23	Oct-Dec '23
Karnataka (F)	25.1	26.1	28.8	29.9	30.2
Karnataka (M)	73	72.9	72.4	73.5	72.2
Karnataka (P)	49.5	50	51.1	52.2	51.8
Kerala (F)	27.3	26.6	27.1	27.2	28.8
Kerala (M)	68.3	67.6	67.4	68.1	68.8
Kerala (P)	46.5	45.7	45.9	46	47.2

Source: PLFS Quarterly Bulletin October- December 2023

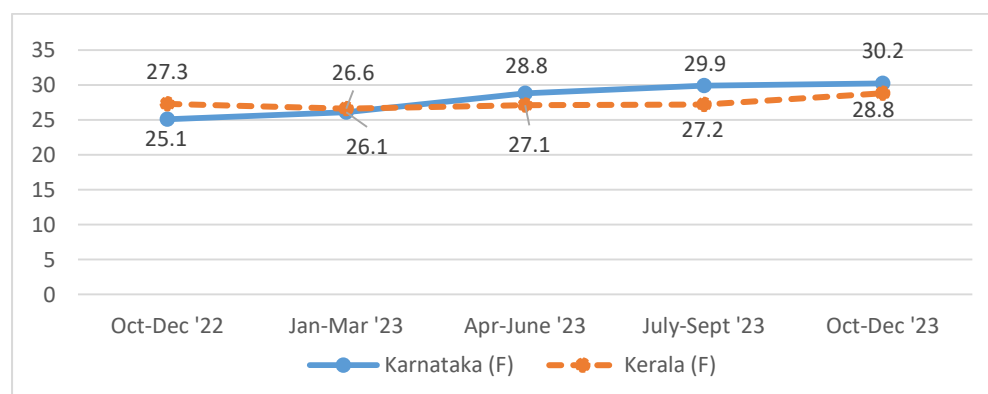
Table 5.12: Quarterly Comparison of Worker Population Rate (WPR) of Karnataka and Kerala

State	Oct-Dec '22	Jan-Mar '23	Apr-June '23	July-Sept '23	Oct-Dec '23
Karnataka (F)	23.7	24.5	27.6	28.6	28.8
Karnataka (M)	59.8	69.4	69.6	70.4	69.9
Karnataka (P)	47.2	47.5	49.1	50	49.9
Kerala (F)	23.8	22.6	22.9	23.2	24.6
Kerala (M)	63.5	62.6	62.4	63.6	63.2
Kerala (P)	42.4	41.2	41.3	41.7	42.4

Source: PLFS Quarterly Bulletin October- December 2023

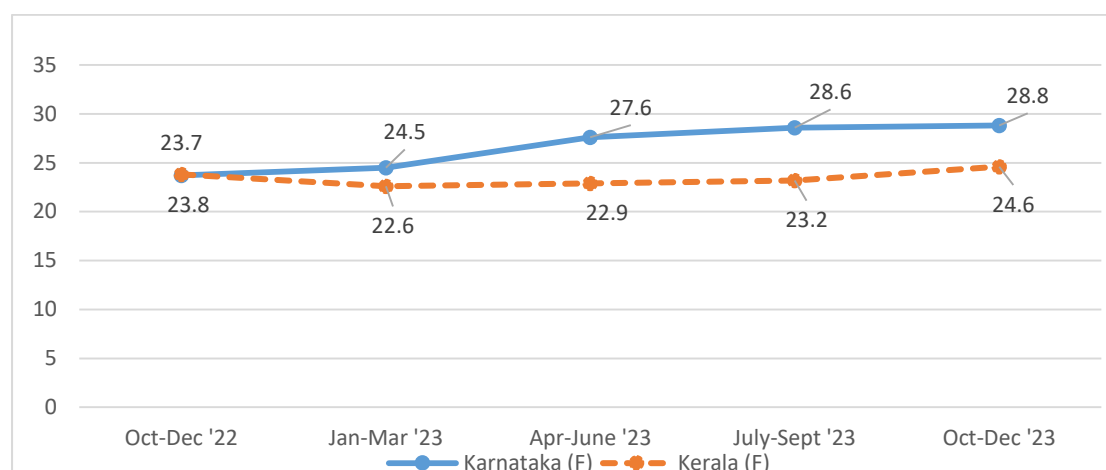
From tables 5.11 and 5.12, we can observe that the trend of change in Male and Total LFPR and WPR is almost same for both the States. However, this gap is wider for Female LFPR and WPR during the period of comparison. While the female LFPR and WPR for Kerala has increased by 1%, Karnataka has seen growth of 5%. Figures 5.7 and 5.8 elucidate this. This may indicate that the increase in LFPR for Karnataka state is attributable to the implementation of the Shakti scheme.

Figure 5.7: Trends of change in Female Labour Force Participation Rate in Karnataka and Kerala



Source: PLFS Quarterly Bulletin October- December 2023

Figure 5.8: Trends of change in Female Worker Population Rate in Karnataka and Kerala



Source: PLFS Quarterly Bulletin October- December 2023

The female LFPR and WPR in Karnataka have increased by 5% from Oct-Dec 2022 to Oct-Dec 2023. The female LFPR and WPR were 28.8% and 27.6% in the Apr-June quarter in 2023 i.e., before implementation of the Shakti scheme and have increased to 30.23% and 28.8% in Oct-Dec 2023 respectively, despite a decrease in the male and total LFPR and WPR in the Oct-Dec 2023 quarter.

Economic participation and opportunity are the primary dimensions of women empowerment and offering safe and affordable mobility is the first step towards it. An increase in the rates of female labour force participation demonstrates the improvement in the empowerment of women in the state. Shakti scheme is facilitating women's empowerment by offering free rides in the public transport.

Chapter 6 : Conclusion and Implications

6.1. Conclusion

The Government schemes - whether undertaken for socio-economic improvement of the socio-economically disadvantaged people or poverty alleviation or for empowerment, also affect the fiscal position of the government. Assessment of such fiscal impact becomes important and relevant for policy. The current study on the fiscal impact analysis of the Shakti scheme makes an effort to assess the directional impact of the scheme in GoK. Its main observations are summarised below:

- This study finds that the expenditure and allocation on the Shakti scheme form a significant share of the State Budget 2023-24 (July) and 2024-25. It amounts to a sizeable amount in the debt and deficit of the GoK.
- It generates a considerable amount of GST from the amount saved on conveyance, which is the revenue for GoK. This implies that the fiscal effects of the scheme are positive on GoK.
- The changes in the data unadjusted revenue effect are not remarkable, because the size effects of the MPCE were already accounted for while adjusting the consumption patterns for 2022-23.
- This is also an indication that there is no substantial change in the commodity consumption pattern of Karnataka from 2011-12 to 2022-23.
- The scheme's social impact on the stakeholders is also an important aspect to assess. The comparison of the labour force participation and the worker population rate before and after the implementation of the scheme reveals that the female labour force participation rate and female worker population rate have increased despite a decrease in the total LFPR and WPR. This signifies a boost in the interest of women in participating in economic activity as well as an increase in their share in the job market.
- As stakeholders and implementing agencies of the Shakti scheme, the State Road Transport Corporations are availing the benefit of the scheme. The case study of BMTC unveils that the corporation's traffic revenue and vehicle utilisation have seen a sharp rise after the implementation of the scheme. Thus, the scheme has positively contributed to improve the financial health of the corporations.
- This increase in traffic revenue also means that the RTCs are moving towards achieving self-sufficiency in their operations and the government's burden on providing subsidies to the RTCs is also reduced.
- As the scheme becomes matured, more social benefits can be seen and increased female visibility in public places may instil a more secure feeling and confidence in women to participate in social and economic activities..

6.2. Policy Implications

The study provides a general framework for calculation of the revenue effect with and without data on commodity-wise consumption and taxable consumption items. Though the present size of the effect of the Shakti scheme is indicative because of data constraints, it measures the direction of the scheme's impact. The contribution of Data Adjusted and Data Unadjusted Revenue is 3.50% and 3.85% of the expenditure made on the Shakti scheme respectively. The difference in revenue contribution arrived at by using these two methods is not remarkable as the size effects of the proportion of consumption expenditure have already been accounted for by taking the MPCE for 2022-23 for Karnataka. This also signifies that there is no major shift in the commodity consumption pattern of Karnataka from 2011-12 to 2022-23.

After implementation of the Shakti scheme, leisure travel to the tourist places of the state has also surged. This has resulted in an increase in revenue to the hospitality industry and tourism department of GoK. Further studies can be taken up to encapsulate such effects.

However, since the scheme is aimed at attaining social welfare in the form of women empowerment, the revenue effect has not been captured in the scheme design. The inclusion of revenue effect into the scheme design would give a new outlook to the scheme.

The scheme's success in achieving women's empowerment is reflected in the increased labour force participation and worker population rates. The LFPR has risen 5% on year-on-year basis from 25.1% in October- December 2022 to 30.2% in October- December 2023. The WPR increased to 28.8% in October- December 2023 from 23.7% in the same quarter last year i.e., 2023.

The Shakti scheme is being implemented through RTCs. Therefore, they are also the beneficiaries of the scheme. The Shakti scheme may have a positive impact on full utilisation of the fleet capacity of RTCs. This increases the corporation's revenue and once they become self-sufficient in managing their expenses, the burden on the state government to subsidise the corporations may be reduced. Thus, the scheme acts as a facilitator for both, viz., RTCs and eligible beneficiaries.

The net fiscal effect is less than the total expenditure made on the Shakti scheme, which is an indication of the considerable revenue generation from the scheme. Thus, in the long run, the effects of the public expenditure burden of the scheme may not outweigh the combined positive revenue effect and non-fiscal effects of the scheme. However, ultimately, this is an empirical question to be explored in the future.

References

- Bočková, Nina. (2022). *Empirical Evidence of the Effect of Fare Subsidies in Transition Economies*. Eastern European Economics. 61. 1-21. 10.1080/00128775.2022.2153698.
- BMTC. *24th Annual Administration Report, 2020-21*. Bangalore Metropolitan Transport Corporation. Government of Karnataka, Bengaluru.
- BMTC. *26th Annual Administration Report, 2022-23*. Bangalore Metropolitan Transport Corporation. Government of Karnataka, Bengaluru.
- BMTC, *Performance Indicators*. Bangalore Metropolitan Transport Corporation, Government of Karnataka, Bengaluru. Retrieved June 3, 2024.
- BMTC. (2021). *25th Annual Administration Report, 2021-22*. Bangalore Metropolitan Transport Corporation, Government of Karnataka, Bengaluru.
- Cats, Oded & Reimal, Triin & Susilo, Yusak. (2014). *Public Transport Pricing Policy – Empirical Evidence from a Fare-Free scheme in Tallinn, Estonia*. Transportation Research Record Journal of the Transportation Research Board. 2415. 89-96. 10.3141/2415-10.
- Central Board of Indirect Taxes and Customs (2023). *GST Rates*. Department of Revenue, Ministry of Finance, Government of India, New Delhi.
- Cirillo, C., Tabrizi, A., Rakha, H., & Du, J. (2023). *FARE FREE PUBLIC TRANSPORTATION A full-scale, real-world experiment in Alexandria (VA)*. Urban Mobility and Equity Center.
- Commercial Tax Department (2024) *Month-Wise Revenue Statistics*. Government of Karnataka, Bengaluru. Retrieved June 3, 2024.
- Dutra, A. (2019). *Tallinn and The Visions for Luxembourg and Uppsala The Present and the Future of Fare-Free Public Transport and Sustainable Public Transport: The Cases of Avesta and Uppsala*.
- Economic and Financial Affairs Wing, Lok Sabha Secretariat. (2016, March). *Gender Budgeting in India: A Tool for Women Empowerment*. Lok Sabha Secretariat Intranet. Government of India, New Delhi.
- Finance Department (2023). *Detailed Budget Estimates of Expenditure- Demand-wise for 2022-23 Volume 1*. Government of Karnataka, Bengaluru.
- Finance Department (2024). *Medium-Term Fiscal Plan 2024-28*. Government of Karnataka, Bengaluru.
- Goldin, C. (2023, October 9). *The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2023*.
- Government of India (2020, July). *Population Projections For India And States 2011 - 2036*. National Commission on Population, Ministry of Health and Family Welfare, Government of India, New Delhi.
- Government of India (2024). *Receipt Budget: Statement showing State-wise Distribution of Net Proceeds of Union Taxes and Duties for BE 2024-25*. Ministry of Finance, New Delhi.
- Gupta, S. (2023, March 23). *Safe mobility: A way to empower women – IWWAGE-Institute for What Works to Advance Gender Equality*. IWWAGE.
- Horton, M., & El- Ganainy, A. (2009, June). *Back to Basics: What Is Fiscal Policy?* Finance and Development | F&D.

- Kębłowski, W. (2018, May). *Fare-free public transport in Chengdu: Riding For Free in a Chinese Metropolis*.
- National Sample Survey Office (2013). *Key Indicators of Household Consumer Expenditure of India 2011-12*. Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
- National Sample Survey Office (2024). *Annual Report of Periodic Labour Force Survey (PLFS) 2022-23*. Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
- National Sample Survey Office (2024). *Factsheet of Household Consumption Expenditure Survey (HCES) 2022-23*. Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
- National Sample Survey Office (2024). *The Multiple Indicator Survey (MIS) report of NSS 78th round 2020-21*. Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
- National Sample Survey Office (2024). *Quarterly Periodic Labour Force Survey October-December 2023*. Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
- Ria Kasliwal. (2023, March 8). *The Status of Gender Budgeting in India*. Accountability Initiative: Responsive Governance.