

Impact of GST on Construction Projects In Amravati Region

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Abstract- Introduction of Goods & Service Tax has made large scale changes in the working pattern of all the sectors of Indian Economy. The Construction Sector, often known as an “unorganized sector” has been hit by it the most as in construction sector, there are large number of activities involved, a big budget is put up initially, knowledge regarding the document management as well as the management of financial aspects is not done as per the required terms. Often there are shortcuts taken to deal with the tax enhancing activities, which is making the construction industry prone to the bad effects of GST on its working and is regularizing the unorganized sector. There are myths that construction sector is facing a slow down due to GST, there is a rise in the cost of materials, machinery as well as man power due to GST, but the actual scenario is being studied by taking an existing building if construction as per the old system of taxation and if the same is constructed as per the GST regime. The difference in the cost is calculated on unit basis to check the effects of GST on Construction Sector.

Keywords- GST, Construction, Construction Industry, Effects of GST, GST in Construction, Construction Cost for GST, Building Construction

I. INTRODUCTION

In Construction industry, there has always been a need to improvise the way of working to achieve better results, saving in time, energy and cost. In doing so, there are lot of shortcuts taken, lots of time saving activities are conducted which results in inadequate data regarding all aspects of the projects. There are certain things which are completely absent when it comes to documentation of all the project data on completion of project. In all these things, there exists a scope of improvement, in order to regularize this, the finance ministry has put up Goods & Service Tax (GST) in order to regularize the construction sector. Introduction of Goods & Service Tax (GST) by the government of India has led to a lot of ambiguity in the Construction industry because it's not only a new thing to deal with but, it will also regularize the so called “Unorganized Sector”.

To arrive at a conclusion, detailed studies starting from the gestation phase to the handover phase would depict in detail where are the area of concern where the cost of project has affected due to GST implementation. These studies not only give a clearer picture of what all area of concern are to be seen to eliminate the unnecessary cost but it will also help the project manager to analyze and form such schedules that are met with as per the scheduled cost and time frame to nullify the effects of cost variation in the building construction industry. So, to get a clear picture of increase or decrease in cost due to GST, detailed study of a project before and after GST is done for a check in cost variation.

II. LITERATURE SURVEY

A. Detailed Working Drawings of an existing Project

Detailed Good for Construction (GFC) certified drawings of an existing construction project for working of quantities & cost.

B. Old Taxation Source

A Manual Published by the Maharashtra State regarding the tax rates of all the materials, goods, services used for construction industry. A Manual Published by the central government regarding the various taxes levied by the government on goods, services used by the construction industry.

C. Goods & Service Tax Rate Source

Android Application named GST Rate Finder provided by the Government for the betterment of consumers to avoid being cheated by any means. A Manual Published by the Maharashtra State Government for the tax rates of all the necessary goods, services used in the construction industry.

III. ASSUMPTIONS & LIMITATIONS OF STUDY

In this Project, detail comparison is done only for the execution phase of the project. Working for detail cost,

quantities, scheduling & comparison of cost is done only up to partial finishing of project. It is based on the comparison for a project constructed with old tax and with new tax system. Details of the project regarding name of project, etc. has not been mentioned due to secrecy of the identity of project stake holders. The rates of material are prevailing market rates & may change as per the change in locality. This project is conducted purely for educational purpose and has no liability of 100% authenticity of the data provided as the detailed working may have variation with the location of project. Input Tax Credit (ITC) which is an accounting term is not taken in consideration as its out of scope of engineering studies

IV. RELEVENCE OF TOPIC & NEED OF GST STUDY FOR CIVIL ENGINEERS

Construction industry comes under the Industry Sector out of the three sectors of Indian Economy. As it is a known fact that India is one of the fastest growing economy, there is lot of infrastructure development going on in the country to constantly grow at this faster rate of growth in the range of 6-7%. In the second quarter of 2017, growth rate of Indian Economy was at 7.2% which surpassed China too. Contribution of industrial sector to GDP is 29% of the total GDP. In this 29%, construction industry contributes to 11% of the industry sector. This seems to be a big digit when it comes to revenue generation of the nation. Even the latest annual budget has given due importance to the infrastructure development as a country is said to be developed if it has the best infrastructure facilities which invites other sectors, leading to generation of revenue and growth of country.

While talking about the employment generation, industry sector is occupying 22% of the labour force of the country. Whereas the construction sector is the 2nd largest employer after the agricultural sector. So, due to implementation of GST, naturally the construction industry would suffer.

It is often wondered that how does it concern for a Civil Engineer to study the GST impact, for the same following points can be stated for which a Civil Engineer needs to study GST & its consequences in construction sector: -

- High Initial Investing Sector.
- Contractor's Relied on Labor's.
- Service Charges.
- Machinery Cost.
- Material Cost.
- Man Power Cost.
- Rate of Interest on Borrowings.
- Labor Contracts Turn Dicey.

- Transparency of Tax Reforms.
- No Scope of Cheat.
- Organizing the Unorganized Sector.
- Project Planning, Scheduling & Budgeting

V. METHODOLOGY ADOPTED

To begin with, an existing project is selected & all the detailed plans are obtained from the project site. Detailed working of Quantity, Time & Cost is done for the Project by conducting the study up to Partial Finishing.

Process of Working on the Project is as follows: -

- Plan Study & Analysis.
- Quantity Surveying & Estimation.
- Documentation of the Quantities.
- Project Planning & Scheduling.
- Daily Project Report Analysis.
- Rate Analysis of all items of Project.
- Finding Tax Rates & Their Breakup.
- Working Out for Area Statement.
- Documentation of Quantities in BOQ.
- Working out cost of all items.

Arriving with comparative results

VI. DATA ANALYSIS, DOCUMENTATION & INTERPRETATION

A. Project Details

- 1 Plot Area: - 639.80 Sqft
- 2 Location: - Amravati
- 3 Project :- Health Check up and Sick Room

B. Material & Tax Rates Before & After GST

From the manual published by the government departments, the following tax rates are found out for calculation of comparative cost. It is to be noted that the rates in Red indicate the increase in cost due to GST & the rates in Green indicate the decrease in cost due to GST.

| | | | | | |
|----|------------------------|----------|-----|-----|------|
| 1 | Cement OPC | 50Kg bag | 27% | 28% | 1% |
| 2 | Crushed Sand | Cu.M | 27% | 5% | -22% |
| 3 | River Sand | Cu.M | 27% | 5% | -22% |
| 4 | Aggregate | Cu.M | 18% | 5% | -13% |
| 5 | Rubble | Cu.M | | 5% | -22% |
| 6 | Bricks | No | 18% | 5% | -13% |
| 7 | Siphorex Block | No | 18% | 18% | 0% |
| 8 | Nails | Kg | 18% | 18% | 0% |
| 9 | Binding Wire | M.Tonne | 18% | 18% | 0% |
| 10 | Vitrified Tiles | Sq.M | 27% | 18% | -9% |
| 11 | Glazed Tiles | Sq.M | 27% | 18% | -9% |
| 12 | White Cement | Kg | 27% | 28% | 1% |
| 13 | Plastic Emulsion Paint | Litre | 27% | 28% | 1% |
| 14 | Weather Shield Paint | Litre | 27% | 28% | 1% |
| 15 | Birla putty | Kg | 27% | 28% | 1% |

Chart 1: Material Tax Rate Comparison

| | | | | | |
|----|-------------------------|---------|-------|-----|-------|
| 16 | Water proofing Compound | Kg | 27% | 28% | 1% |
| 17 | Primer | Litre | 27% | 28% | 1% |
| 18 | FE 415 | M.Tonne | 17.5% | 18% | 0.50% |
| 19 | Vertical | No | 17.5% | 18% | 0.50% |
| 20 | Horizontal Y | No | 17.5% | 18% | 0.50% |
| 21 | Horizontal X | No | 17.5% | 18% | 0.50% |
| 22 | Base Plate | No | 17.5% | 18% | 0.50% |
| 23 | U-Head | No | 17.5% | 18% | 0.50% |
| 24 | Box Pipe | No | 18% | 18% | 0% |
| 25 | Runner Beam | Cu.M | 17.5% | 18% | 0.50% |
| 26 | I Beam | Kg | 17.5% | 18% | 0.50% |
| 27 | Plyboard | Sq.M | 17.5% | 18% | 0.50% |
| 28 | MIS Prop | No | 17.5% | 18% | 0.50% |
| 29 | Sikhanja | No | 17.5% | 18% | 0.50% |
| 30 | Shuttering Oil | Litre | 17.5% | 18% | 0.50% |

| | | | | | |
|----|---------------|-----------|-------|-----|-------|
| 31 | Tie Rod | No | 17.5% | 18% | 0.50% |
| 32 | Joint Putty | No | 17.5% | 18% | 0.50% |
| 33 | Gypsum | 25Kg bag | 18% | 5% | -13% |
| 34 | Shabbad Tiles | Sq.M | 18% | 18% | 0% |
| 35 | Sand Paper | No | 17.5% | 18% | 0.50% |
| 36 | Marble Chips | Kg | 27% | 5% | -22% |
| 37 | Water | KL | 0% | 0% | 0% |
| 38 | Cement PPC | 50 Kg bag | 27% | 28% | 1% |
| 39 | Fly Ash | 50 Kg bag | 18% | 5% | -13% |
| 40 | GGBS | 50 Kg bag | 18% | 5% | -13% |
| 41 | Admixture | Kg | 27% | 18% | -9% |

| | | | | | |
|----|------------------|------|-----|-----|-----|
| 42 | AAC Blocks | No | 18% | 18% | 0% |
| 43 | Fly Ash Bricks | No | 18% | 12% | -6% |
| 44 | Safety Tape/Rope | R.M | 18% | 18% | 0% |
| 45 | Catch Net | Sq.M | 18% | 18% | 0% |

Chart 2: Material Tax Rate Comparison

| | | | | | |
|----|------------------|----|-----|-----|----|
| 1 | Head Mason | No | 15% | 18% | 3% |
| 2 | Mason | No | 15% | 18% | 3% |
| 3 | Mazdoor | No | 15% | 18% | 3% |
| 4 | Bhisti | No | 15% | 18% | 3% |
| 5 | Carpenter | No | 15% | 18% | 3% |
| 6 | Carpenter Helper | No | 15% | 18% | 3% |
| 7 | Fitter | No | 15% | 18% | 3% |
| 8 | Fitter Helper | No | 15% | 18% | 3% |
| 9 | Painter | No | 15% | 18% | 3% |
| 10 | Painter Helper | No | 15% | 18% | 3% |
| 11 | Polisher | No | 15% | 18% | 3% |
| 12 | Rigger | No | 15% | 18% | 3% |
| 13 | Rigger Helper | No | 15% | 18% | 3% |
| 14 | Surface Hacker | No | 15% | 18% | 3% |

Chart 3: Manpower Tax Rate Comparison

| Sr No | Description of Item | Quantity | Unit | Pre GST Rate (in Rs) | Post GST Rate (in Rs) | Pre GST Cost (Rs) | Post GST Cost (Rs) | Difference | Difference (%) |
|-------|---|----------|------|----------------------|-----------------------|-------------------|--------------------|------------|----------------|
| 1 | Excavation for Foundation in Earth, soil of all types | 34.59 | m3 | 140 | 143 | 4842.60 | 4946 | 103.4 | 2.09 |
| 2 | Excavation for foundation in Hard Murum | 16.15 | m3 | 165 | 157 | 2664.75 | 2536 | -128.75 | -5.07 |
| 3 | M10 Concrete for Foundation | 12.53 | m3 | 4825 | 4554.25 | 60457.25 | 57072 | -3385.25 | -5.93 |
| 4 | M20 Concrete for RCC in Foundation | 3.20 | m3 | 4930 | 5461.50 | 15776 | 17477 | 1701 | 9.73 |
| 5 | M20 Concrete for RCC Columns | 4.14 | m3 | 6500 | 10118.27 | 26910 | 41890 | 14980 | 35.76 |
| 6 | M20 Concrete for RCC Beams | 12.28 | m3 | 6550 | 8991.20 | 80434 | 110412 | 29978 | 27.15 |
| 7 | M20 Concrete for RCC Slabs | 10.44 | m3 | 6775 | 10002.65 | 70731 | 104428 | 33697 | 32.26 |
| 8 | M20 Concrete for RCC Chajja | 0.45 | m3 | 6600 | 10028.25 | 2970 | 4513 | 1543 | 34.19 |
| 9 | TMT Steel Fe 500 | 2.619 | MT | 47000 | 64136.30 | 123093 | 167973 | 44800 | 26.67 |
| 10 | Burnt Brick Masonry | 9.50 | m3 | 4600 | 5618 | 43700 | 53378 | 9678 | 18.13 |
| 11 | Filling in plinth and floors | 18.88 | m3 | 295 | 597.10 | 5569.60 | 11273 | 5703.4 | 50.59 |
| 12 | Bricks for | 25.96 | m3 | 4700 | 5781.70 | 122012 | 150094 | 28082 | 18.70 |
| | Superstructure | | | | | | | | |
| 13 | Providing Soling | 12.66 | m3 | 600 | 1437 | 7596 | 18192 | 10596 | 58.24 |
| 14 | Providing internal Cement Plaster | 50.48 | m2 | 130 | 155 | 6562.40 | 7825 | 1262.6 | 16.13 |
| 15 | Fixing Mild Steel Grillwork | 9.12 | m2 | 1600 | 1468 | 14592 | 13388 | -1204 | -8.99 |
| 16 | Fixing Aluminium Window | 7.50 | m2 | 4000 | 4889 | 30000 | 36668 | 6668 | 18.18 |
| 17 | Internal Cement Plaster | 171.58 | m2 | 160 | 216.30 | 27452.8 | 37114 | 9661.2 | 26.03 |
| 18 | Sand Faced Plaster Externally | 169.73 | m2 | 360 | 621.60 | 61102.8 | 105506 | 44403.2 | 42.08 |
| 19 | Glossy Finish tiles | 43.61 | m2 | 900 | 1046.50 | 39249 | 45638 | 6389 | 13.99 |
| 20 | Interior wall finish Paint | 222.06 | m2 | 75 | 154.80 | 16654 | 34374.88 | 17720.88 | 51.55 |
| 21 | 2 coats of exterior weather shield paint | 169.73 | m2 | 145 | 194 | 24610.85 | 32928 | 8317.15 | 25.25 |
| 22 | water proofing treatment | 71.45 | m2 | 575 | 791 | 41083.75 | 56517 | 15433.25 | 27.30 |
| 23 | Stainless steel railing | 3.00 | m | 3400 | 3638 | 10200 | 10914 | 714 | 6.54 |
| 24 | Fixing Ventilators | 1.62 | m2 | 1600 | 2688 | 2592 | 4355 | 1763 | 40.48 |
| 25 | laying ceramic tiles | 42.96 | m2 | 925 | 1076.50 | 39738 | 46246 | 6508 | 14.07 |
| 26 | Fixing Concrete frame | 25.25 | m | 600 | 709 | 15150 | 17902 | 2752 | 15.37 |
| 27 | Fixing Shutters | 4.20 | m2 | 5725 | 7145 | 24045 | 30009 | 5964 | 19.87 |
| 28 | Fixing 15mm Dia PVC aqua | 4 | Nos | 240 | 315 | 960 | 1260 | 300 | 23.80 |
| 29 | Wash Hand Basin | 2.00 | Nos | 2400 | 4060 | 4800 | 8120 | 3320 | 40.88 |

It can be easily observed from the above calculations that even though ITC is not taken in consideration, there has been a considerable increase in of the Project Cost by application of GST. If the ITC studies are taken in consideration, then this cost will increase even more & hence,

it can be said that it is not a good effect of GST on construction industry. It is also seen that only the Labour Contracts are at total loss which is to be paid attention by the contractors bidding for labour contract.

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