

Technical Complexities in Management of Improvement Project

*Presentation for RAP3 Senior Technical
Management Course*

Er. Harihar Bhandari
DTL Morang

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Presentation Outline

1. Overview of District Programme (015/16) -
based on Improvement Project
2. DTA Ambitions – Impacts (Improvement)
 - a. This Year (015/16)
 - b. The “Bigger Picture”
3. Challenges –
 - a. Quality Control/Assurance
 - b. Contract Administration
4. Successes – *what went well, +ve & -ve lessons learned*
 - a. Quality Control/Assurance
 - b. Contract Administration

Presentation Outline....contd.

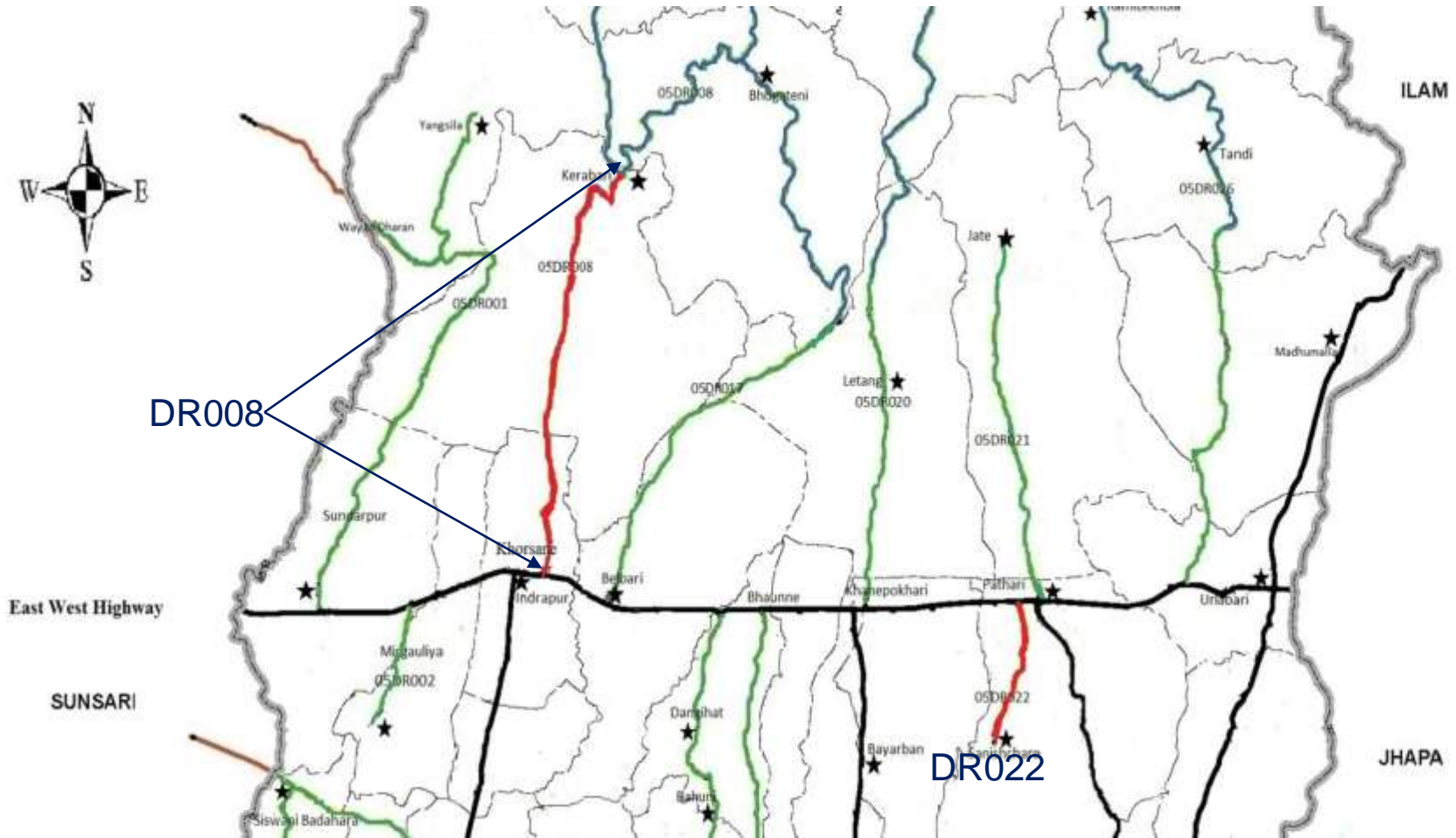
5. Deficiencies this year – *where we struggled / failed to delivery & why?*

- a. Quality Control/Assurance
- b. Contract Administration

6. Scope for Improving – *DTL's suggestions for how to do things better / innovation, etc.*

- a. Quality Control/Assurance
- b. Contract Administration

1. Overview of District Programme



RAP 3

Rural Access Programme
Development through access

1. Overview of District Programme: Improvement Works

- ❖ Contract signed: 6 July '15; Site Possession: 21 July '15 (FY 071/72); EoT-1: 24 July '16
 - ❖ Khorsane-Kerabari (DR008) "Package A",
 - ❑ Length - 7.441Km
 - ❑ Rev. Contr. Amt.: NRs. 56.448Million (incl. VAT)
 - ❑ Value of Works completed: NRs. 54.489Million (96.5%)
 - ❑ Tot. Payment done (incl. Adv. Mob): NRs. 35.596Million (63.06%)
- *Payment of AC Pavement ≈ NRs. 21.86Million pending due to Sub-standard work!

1. Overview of District Programme Contd.

❖ Pathari (Bhutani Siwir)-Sanischare (DR022) “Package B”

- ❑ Length - 2.6Km
- ❑ Rev. Contr. Amt.: NRs. 27.681 (incl. VAT)
- ❑ Value of Works completed: NRs. 16.66Million (60.2%)
- ❑ Total Payment done (incl. Adv. Mob): NRs. 12.351Million (44.47%)
- ❑ Base course and hard shoulder works undergoing

2. DTA Ambitions – Improvement

This Year (015/16):

- ❖ Tripartite (DoLIDAR-DDC-RAP3) Agreement joined hands for TA support in GoN-Improvement project
- ❖ RAP3 in the capacity of PM: equivalent to “FIDIC Engineer”,
 - ❑ Act as an “Agent” but not limited to agency relationship,
 - ❑ He should act professionally and fairly and decide matters in the role representing the Employer’ ,
- ❖ DDC/DTO as an Employer,
- ❖ Employer seeks NOL & Concurrence from TMO,
- ❖ DDC responsible for Fund arrangement from DoLIDAR,
- ❖ Contracts/payments subject to RAP3 Internal Audit,
- ❖ RAP3 internal cost for Supervision/Monitoring

2. DTA Ambitions – Improvement

This Year (015/16):

- ❖ Delegated Authority to DTL: EXCEPT than these
 - ❑ Approving sub-contracts, GCC 7
 - ❑ Certifying additional costs, GCC 42
 - ❑ Determining extension of completion date (EoT), GCC 27
 - ❑ Issuing a VO except in EMR Situation, GCC 1.1.(ii) & 38
 - ❑ Adjustment of rates, GCC 37
 - ❑ Making changes to the Spec, GCC 1.1.(ee)
 - ❑ Approval, deposit & alterations of Insurance, GCC 13
 - ❑ Seeking Acceleration (GCC 28.1), Ordering Delays (29.1)
 - ❑ Issue DLC (GCC 46.2)
 - ❑ Issue Completion Certificate (GCC 1.1(f) & 53)
 - ❑ Issue DLC & certification of Final Payment(GCC 55.1)
 - ❑ Decide Fundamental breaches, GCC 57.3
 - ❑ Release from performance, GCC 62.1

b. “The Bigger Picture”

- ❖ RAP3 is ambitious to replicate this “role”, for.....
 - ❑ Technology transfer within DDC/DTO,
 - ❑ Meeting Improvement needs of Pilot districts with huge annual dedicated funds,
 - ❑ Filling gaps of Contract Administration at DTO/DDC level,
 - ❑ Practising Project Development Mechanism at DDC level in a Professional manner – from DPR to TA support including PM-ship!

1. Overview of District Programme

Some Photos of Implementation



Embankment Raising works at K-K Road

1. Overview of District Programme

Some Photos of Implementation



Sub-base course works at K-K Road

1. Overview of District Programme

Some Photos of Implementation



Base course works at K-K Road

1. Overview of District Programme

Some Photos of Implementation



Field density test of base course at K-K Road

1. Overview of District Programme

Some Photos of Implementation



Prime coat works at K-K Road

1. Overview of District Programme

Some Photos of Implementation



Application of Tack coat at K-K Road



Asphalt Concrete works at K-K Road

1. Overview of District Programme

Some Photos of Implementation



Asphalt Concreting works at K-K Road

1. Overview of District Programme

Some Photos of Implementation



Sub-base course works at P-S Road

1. Overview of District Programme



Plum concrete drain works at P-S Road

1. Overview of District Programme



Jt. Monitoring of P-S Road by DC/CMS/ DTL/Imp. Team/Contractor/UCs



Jt. Monitoring of P-S Road by PC/ DTL/Imp. Team/ Contractor/UCs

1. Overview of District Programme

Some Photos of Monitoring & Evaluation:



Jt. Monitoring of K-K Road by DTICC Members (LDO/DTO/Political leaders/DTL /Imp. Team/Contractor) after Prime Coat



Jt. Monitoring of K-K Road by DC/ CMS/DTL/Imp. Team/Contractor after AC pavement laying

1. Overview of District Programme

Some Photos of Meetings



Regular Joint Meeting with LDO/DTO/DTL/Imp. Team/Contractor at DDC, in presence of DC & CMS from TMO



Internal Meeting with DC/CMS/DTL & Imp. Team at Site Office of K-K Road on June 11th, 2016

A Schematic diagram of Asphalt (Drum) Mix Plant



1. Overview of District Programme

Some Photos of Joint Verification:



Meeting with Improvement Team & Contractor at Khorsane Site Office in presence of DoLIDAR-PC for review of work progress



RAP3-ETL visiting Contractor's Asphalt Plant at Duhabi with DC/Pavement Expert/DTA-Team

RAP 3

Rural Access Programme

Development through access

3. Challenges

a. Quality Control/Assurance:

- ❖ Experienced/dedicated staff of contractor (*i.e., PM, Civil Engineer, SLT, Operators, etc.*)
- ❖ Condition of equipment on site (*Grader, Roller, Tipper, Tanker, Excavator, etc.*)
- ❖ Lab facilities in DDC for BT Tests,
- ❖ Lab arrangements at Contractor's Asphalt Mixing Plant, Duhabi,
- ❖ Asphalt Batching Plant in Eastern region (?),

3. Challenges

b. Contract Administration:

- ❖ Know-how on FIDIC style contract in DDC/DTOs
- ❖ Documentation on Insurance, Bank Guarantees, etc.
- ❖ Management decisions on VO Approval, EoT finalization, etc.
- ❖ Replacement of staffs of Contractor
- ❖ Experience of Improvement Team working with Local Bodies

4. Successes this year (*what went well*)

a. Quality Assurance/Control: *Specific Points:*

- ❖ Timely correspondence with contractor on Tests related to Suitability/Site Stock/Conformity, etc. up to base course
- ❖ Test frequencies are met as per QAP/QCP except in case of Asphalt Concrete
- ❖ Most of the Tests are witnessed by RE himself
- ❖ Base & sub-base courses are evidenced as “*intact*”,
- ❖ Prime coat is functional in almost areas
- ❖ Progress of Package A considered as “*on-track*” before identification of sub-standard works

4. Successes this year (*what went well*)

b. Contract Administration:

❖ Procedure of VO Preparation to Approval:

- ❑ Reasons: fully explain why change is inevitable (*change identified during Joint Construction Survey or even later*)
- ❑ Budget: any increase in cost from available Budget/ Contract amount must be assured,
- ❑ Approval: evidence of the Employer's i.e., DDC's approval (*backed up by Meeting Notes*), countersigned & then Issued by PM
- ❑ Docs required:
 - Excel sheets of Detailed Quantity calculations & Summary of Costs
 - Word version Brief Report of justification
 - Revised Contract Document

4. Successes this year (*what went well*)

b. Contract Administration:

❖ Procedure of EoT finalization:

- ❑ Contractor's *request letter*, with clear & valid reasons/grounds/calculations included
- ❑ Analysis of "*entitlement in Principle*" from RE Team; *tools for quantification are*
 - The *Accepted Programme* (workable good plan showing what can/can't be done during monsoon/festival, etc.)
 - The *Daily Diary*, that records the contractor's efforts to mitigate any issues
 - *Correspondence & Meeting Minutes* that establish & support the history of events & Contractor's efforts,
 - Compensation event can lead to further claims

4. Successes this year (*what went well*)

b. Contract Administration: *Specific points:*

- ❖ Initially Contractor tried to follow revised “*Work Programme*” to complete before monsoon
- ❖ DDC/DTO played *professional role* to run the Imp. works (*DTO Chief agreed & accepted PM-ship with RAP3*)
- ❖ Contractor, *being a local*, shared ample time on site for works and discussion/meeting at Office & Sites,
- ❖ Public in both KK & PS Roads have been monitoring thru their UCs
- ❖ Management meetings are conducted at regular intervals.

5. Deficiencies this year (Lessons learnt)

a. Quality Assurance/Control:

- ❖ Method Statements are approved as per general requirements only
- ❖ QAP/QCP are not updated/regularised
- ❖ DDC Lab could not handle all Tests of pavement materials like sub-base & base, while for Bitumen not a single test
- ❖ Contractor did not emphasize on “Trial-Section” as stated in QAP/QCP
- ❖ No Batch recording of AC Mix, either at Plant or at Site

5. Deficiencies this year (Lessons learnt)

a. Quality Assurance/Control Contd.

- ❖ No tests for Gradation and Bitumen Content of mixture at every 100 tonnes done by contractor,
- ❖ Lack of experienced/dedicated staff of contractor (*i.e., part-time PM, only Lab Tech. instead of SLT, etc.*),
- ❖ Lack of proper coordination/consultation within DTA & DTO in technical matters,
- ❖ Lack of research/studies on efficiency and/or quality assurance of portable site-based plant Vs Asphalt Mixing Plant.

5. Deficiencies this year (Lessons learnt)

a. Contract Administration:

- ❖ Unanticipated time loss due to 6 months' border/general strikes and fuel shortage
- ❖ Delay in finalization of VO procedures (*in the district*)
- ❖ Delay in finalization of EoT procedures (*in the district*)

6. Scope for Improving

a. Quality Assurance/Control:

- ❖ Method Statements must be finalized only after rigorous discussions
- ❖ Test frequencies of QAP should be strictly followed as per QCP and update if required
- ❖ Design Mix for AC should be done very cautiously in a sophisticated lab
- ❖ DDC Lab should be strengthened with lab facility for Blacktop Tests
- ❖ Contractor must maintain a Material Lab at Asphalt Plant
- ❖ Batch recording of AC Mix, either at Plant or at Site, is must for conformation of end product
- ❖ Advanced Training on Blacktop pavement for DTA/DDC Staffs
- ❖ Screen size of Aggregate Crushers should be monitored critically during Suitability Tests
- ❖ Refresher Training on Quality Control to SLT/Engineers of DDC/DTO is highly desired

6. Scope for Improving

b. Contract Administration:

- ❖ Develop culture of consultation/sharing within DTA & DTO
- ❖ Advanced Training on Procurement & Contract Management for DTA/DDC Staffs
- ❖ Appreciative Inquiry (AI) Training to all Admin & Technical staffs of DDC/DTO/DTA

END

