# SEACAP 19

# Development of Local Resource Based Standards

## Task 7: Pilot Road Materials Database (PRDM)

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## Rural Road Databases

| " Earth" Roads ENS-I | | | Gravel Roads | ENS-II |
|---|---|---|---|---|
| Clay | Sand | Gravel | Cobble | Weak Rock |

SEACAP 19 Task 2

SEACAP 4

SEACAP 19 Task 7

SEACAP 1

# Materials Database

The development of a sustainable and affordable rural road network relies greatly on the appropriate use of local construction materials.

There is therefore a fundamental need within Cambodia to assemble a database and information system of practical road construction materials.


| Stakeholders | Expectations |
|---|---|
| Local Communities | Better planning of local extractions, more effective safeguards on environmental damage, |
| Ministries | Data available on the location, properties and costs of materials; more accurate cost planning; more effective use of diminishing resources |
| Local Research Institutions | Transfer of technology on the procedures for materials location and practical data management. |
| Donors | Better information for the assessment of road schemes and more accurate cost estimates. |

## The Pilot Materials Database

A National Road Materials Database (NRDM) can play a key role in the dissemination of information on local materials and indicate their most appropriate use. Hence the development of a Pilot Road Materials Database (PRDM) within the current SEACAP 19 project in Cambodia


## PRMD Principles

- The database comprises number of related tables of files
- Database is quarry-based
- Trialled from a representative selection quarries
- Laboratory testing
- GIS capability within the database
- Links with the existing databases

# Six Related Tables

- Location –quarry locations & environments
- Material –available materials at the quarries
- Product –quarry products
- Sample –materials samples taken for testing
- TestingResultSoil –materials tests on soil samples
- TestingResultStone –materials tests on rock/stone samples

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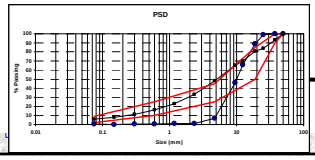
Quarry ID

Quarry ID

Database Structure

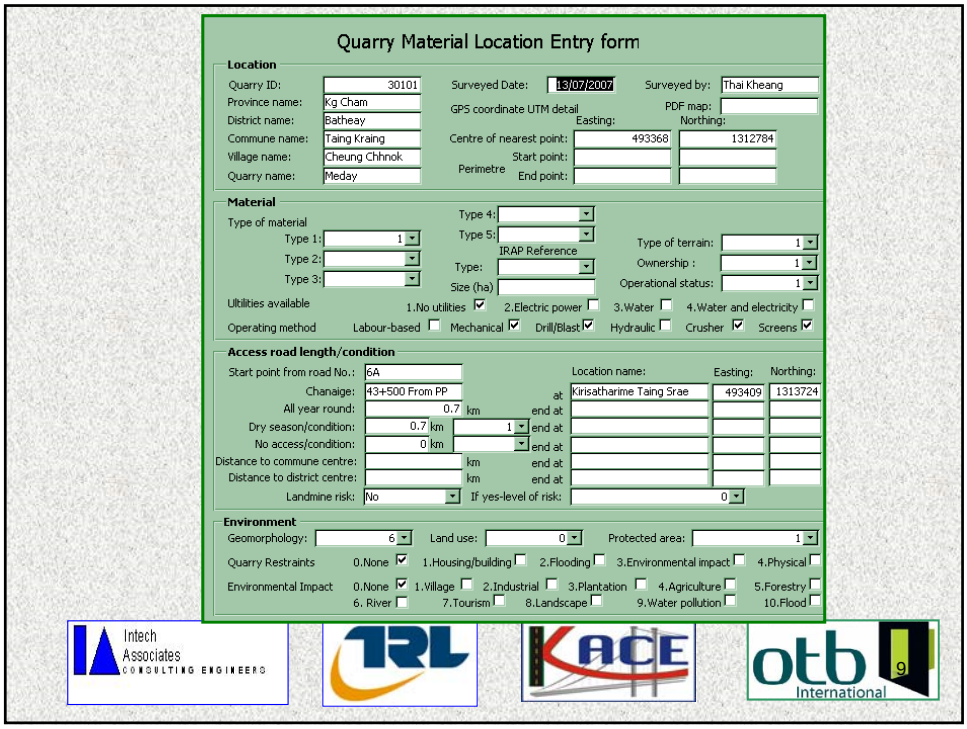
Material ID


Product ID




Sample ID

8


Quarry Material Location Entry form
Location
Quarry ID: 30101
Province name: Kg Cham
District name: Batheay
Commune name: Taing Kraing
Village name: Cheung Chhnok
Quarry name: Meday
Surveyed Date: 13/07/2007
GPS coordinate UTM detail
Centre of nearest point:
Perimetre
Start point:
End point:
Easting:
Northing:
493368
1312784
Surveyed by: Thai Kheang
PDF map:
Material
Type of material
Type 1: 1
Type 2:
Type 3:
Type 4:
Type 5:
IRAP Reference
Type:
Size (ha)
Type of terrain: 1
Ownership : 1
Operational status: 1
Ultilities available
1.No utilities
2.Electric power
3.Water
4.Water and electricity
Operating method
Labour-based
Mechanical
Drill/Blast
Hydraulic
Crusher
Screens
Access road length/condition
Start point from road No.: 6A
Chanaige: 43+500 From PP
All year round: 0.7 km
Dry season/condition: 0.7 km 1
No access/condition: 0 km
Distance to commune centre:
Distance to district centre:
Landmine risk: No
If yes-level of risk: 0
Location name:
Easting:
Northing:
at
end at
Kirisatharime Taing Srae
493409
1313724
Environment
Geomorphology: 6
Land use: 0
Protected area: 1
Quarry Restraints
0.None
1.Housing/building
2.Flooding
3.Environmental impact
4.Physical
Environmental Impact
0.None
1.Village
2.Industrial
3.Plantation
4.Agriculture
5.Forestry
6. River
7.Tourism
8.Landscape
9.Water pollution
10.Flood
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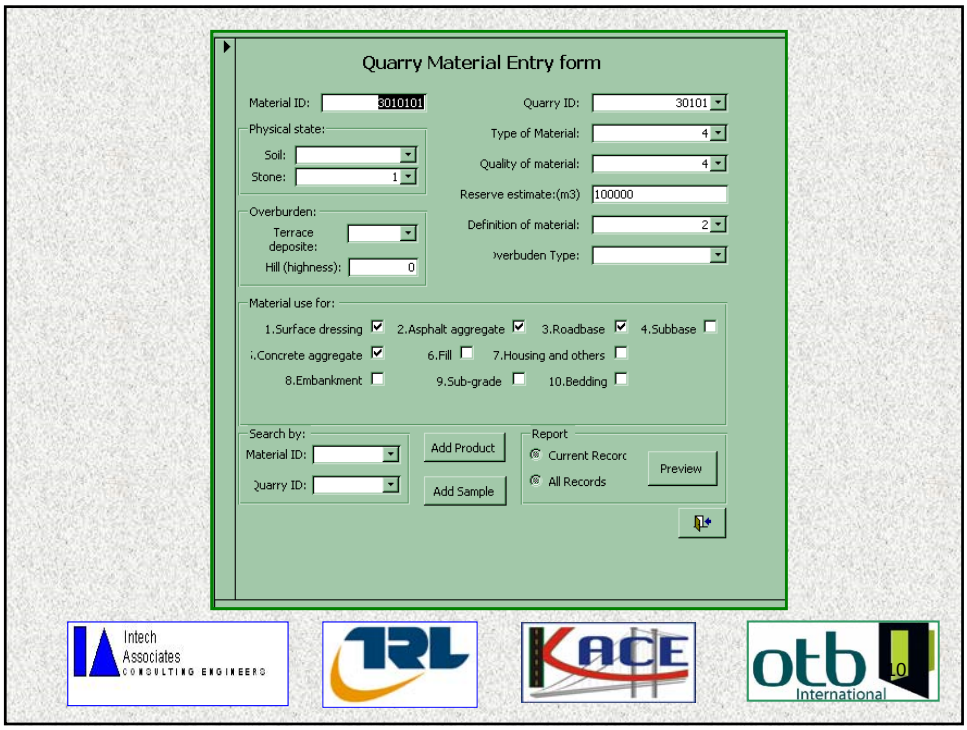
Quarry Material Entry form
Material ID: 30101 01
Quarry ID: 30101
Physical state:
Soil:
Stone: 1
Type of Material: 4
Quality of material: 4
Reserve estimate:(m3) 100000
Definition of material: 2
Overburden:
Terrace deposite:
Hill (highness): 0
Material use for:
1.Surface dressing
2.Asphalt aggregate
3.Roadbase
4.Subbase
5.Concrete aggregate
6.Fill
7.Housing and others
8.Embankment
9.Sub-grade
10.Bedding
Search by:
Material ID:
Quarry ID:
Add Product
Add Sample
Report
Current Record
All Records
Preview
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## Task 7 – Material Resource Locations Surveyed in SRP