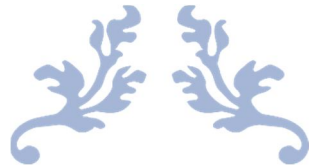


Reading Material



**TRAINING COURSE FOR VILLAGE
LEVEL ADMINISTRATIVE ASSISTANT
(GRAM ROZGAR SAHAYAK)
ON MGNREGS**



State Institute of Rural Development & Panchayati Raj
Mizoram : Aizawl

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**TRAINING COURSE FOR VILLAGE LEVEL ADMINISTRATIVE ASSISTANTS
(GRAM ROZGAR SHAYAK)**

TENTATIVE PROGRAMME SCHEDULE

Venue :
Duration :

DAY (S)	SESSION	TOPIC	RESOURCE PERSON
Day One	0900 - 1000 Hrs.	Registration	
	1000 – 1000 Hrs.	Motivational Speech :	
	1000 – 1015 Hrs.	Tea Break	
	1015 – 1230 Hrs.	Ice breaking & Role of VLAA's	Course Director
	1230 - 1300 Hrs.	Lunch Break	
	1300 – 1400 Hrs.	Record maintenance (with practical)	Course Director
	1400 – 1600 Hrs.	New Permissible Work of MGNREGS with Work code	Course Director
	1600 – 1700 Hrs.	Discussion	
Day Two	0900 – 1000 Hrs.	Recap.	
	1000 – 1100 Hrs.	Preparation of the Shelf of the Project (AAP)	Course Director
	1100 – 1115 Hrs.	Tea break	
	1115 – 1245 Hrs.	Agriculture Related Work (Agro Forestry/Farm Forestry)	Resource Person
	1245 – 1330 Hrs.	Lunch Break	
	1330 – 1500 Hrs.	Agriculture Related Work (Estimation and measurement)	Resource Person
	1500 – 1630 Hrs.	Horticulture Related Work (planting of Horticulture crop)	Resource Person
	1630 – 1700 Hrs.	Horticulture Related Work (Estimation and measurement)	Resource Person
Day three	0900 – 1000 Hrs.	Recap.	
	1000 – 1100 Hrs.	Soil Conservation technique - I	Resource Person
	1100 – 1115 Hrs.	Tea break	
	1115 – 1245 Hrs.	Soil Conservation technique – I (Estimation and measurement)	Resource Person
	1245 – 1300 Hrs.	Lunch Break	
	1300 – 1630 Hrs.	Soil Conservation technique (Estimation and measurement)	Resource Person
	1630 – 1700 Hrs.	Course Evaluation & Closing	

Course Director

Chapter – I

ROLE OF VILLAGE LEVEL ADMINISTRATIVE ASSISTANT/ GRAM ROZGAR SHAYAK (Operational Guideline, 2013)

1. GRAM PANCHAYAT

GP level-ah heng hnathawktu te hi mamawh a ni a:-

- i) Gram Rozgar Sahayak (GRS) / Employment Guarantee Assistant (EGA)
- ii) Hnathawhna hmun viltu / Mate. MGNREGA hnuai a enkawltute senso puhrukna tur Administrative Expense tih hminga sum dah hran hmanna tur hmasa ber chu GRS rawihna senso hi a ni a. Tualchhunga thawktu tur mamawhte leh an mawhphurhna turte chu a hnuai tarlan ang hi a ni a:

1.1 Gram Rozgar Sahayak / Employment Guarantee Assistant

- i) Gram Rozgar Sahayak (GRS) ten GP huam chhunga MGNREGA hnaah Gram Panchayat an puibawm ang.
- ii) GRS chu MGNREGA hna atan chauh rawih tur a ni a, hna dang thawhtir loh tur a ni.
- iii) GP Secretary leh GRS-te tih tur chin fel taka bithliah tur a ni.
- iv) GRS-ten an buaipui tur chu:
 - a. Registration, Job Card pek chhuah, hna dilna atana dated receipt pêk, a diltu tetana inhlawhna pêk chungchang, etc. lo enpui;
 - b. Gram Sabha leh Social Audit neih tur lo puibawm;
 - c. Amahin emaw Mate kaltlang emawin, hnathawh niapianga Muster Roll-a hna thawktu tel dan (attendance) chhinchhiah;
 - d. Hlawhfate'n an nitin hlauh phû tâwk hna an thawh chin tur an hriat theihna'n hnathawhna hmuna Group tinte thawh chin tur chhinchhiah fel; (hemi chhut chhuah dan hi bung dangah ziah a ni)
 - e. Mate-ten a hun takah hnathawhna hmun an thleng em tih leh Muster Roll dik tak hmangin hnathawktu hming an lam (Roll Call) ngei em tih te finfiah;
 - f. He Guidelines Bung 7, para 7.11-a tar lan Worksite Facilities (hnathawhna hmuna chhawp tur) te chhawp ngei a ni tih chian leh hnathawktute Job Card siam that (update);
 - g. MGNREGS kaihhnawih Register zawng zawng fel taka vawn te, GP Secretary emaw official dangte MGNREGA Accounts vawng fel tura lo puibawm te; chu'ng register-te chu vantlang-in an enfiah theih tura lo vawn te.
 - v) GRS chu hnathawhna hmun enkawl leh hnathawh teh chhuah (measurement lâk) dan te mumal taka training neihpui tur a ni.
 - vi) GRS hlauh / lawmman hi a zât bituk emaw hnathawh mil zel (performance basis) emawin a pêk theih ang a. Thawh that leh that loh dan azira lawmman pêk belh emaw tihlem dan turte pawh duan a tul bawk. MIS-a GRS chungchang dah luh thuGram Rozgar Sahayak chhawr dan chipchiar hi MIS-ah thla tinin PO emaw GRS ruai tura thuneihna leh mawhphurhna neitu apiangin an dah luh belh zel (update) tur a ni.

1.2 GRAM ROZGAR SAHAYAK OR EMPLOYMENT GUARANTEE ASSISTANT (Role & Responsibilities of Key Functionaries MoRD, 2014)

- a. Village Council/Gram Panchayat te chu MGNREGA hna thawhah an pui ang.
- b. Chhungkaw ziah luh enpui, job card sem, hna diltu hnena dated receipt pek, diltu hnena hna sem leh a dangte.
- c. Gram Sabha meeting leh social audit huaihawt.
- d. Muster Rolls siamsa hmangin, amah emaw mate-in emaw, hna thawhna hmuna nitin hna thawktu kal chhinchhiah.
- e. Hnathawhna hmunah chuan hna thawktu pawl tinte an nikhat hlawh tur an thawh chhuah ngei theihna tura hna an thawh ngai zat an hriat theihna turin, hna thawh zat tur bithliah fel tak an siam tur a ni.
- f. Mate te chu hnathawhna hmunah an awm ngeina tur leh muster roll siamsa hmangin hna thawhna hmunah hming an lam ziahna tura hma lak.
- g. Worksite facilities a awm ngei tih an chianin, hna thawktu te job card chu a hun bi takah an ziak fel zel tur a ni.
- h. VC/GP level-ah MGNREGS hna kaihnawih register te chu an enkawl vek ang.
- i. Village Council/Panchayat Secretary leh MGNREG Accounts vawngtu official te chu a tanpui ang.
- j. Lehkha pawimawh te chu mipui vantlang enchian theih turin a awm ngei tih a chian tur a ni.
- k. VC/GP te chu Rozgar Diwas buatsaih kawngah a puibawm ang a, a huaihawttu (convener) ber a ni ang.
- l. Village Resource Group-ah telin village level-ah hna hrang pawhkhawm (convergence) atana ruahmanna siam kawngah a meizang hlaptu ber (facilitator) a ni ang.
- m. Hna thawk thei tura tling chhungkua te chu endik an nih hnuah an chhungkaw nihna kimchang chu MIS-ah a ziak lut ang.
- n. State Quality Monitor-in a ran tlawh hmain index map leh thil chhinchhiahna pawimawhte chu a lo la khawm sa vek ang.
- o. Hna thawktu te hnenah hlawh lakna lehkha (pay slip) chu mate nen an sem chhuak ang.

Chapter – II

MAINTENANCE OF RECORD

Records tih awmzia hi chu thil engpawh paper-ah emaw a ziahna tura ziah eng pawh, khawi hmunah emaw kan dah a, a hnu lehzele en theih hi a ni.

Enge a pawimawhna ?

1. A hnu zela pawl dinhmun hriat nan
2. Pawl changkan leh changkan loh tehfung atan
3. Hmalak dan tur hriatna atan
4. Pawl buaina thelh turin
5. Inrin tawna atan etc.

Mahatma Gandhi NREGS hnuai ah Ministry of Rural Development, Government of India chuan a hnuai Register kan han tarlan te hi MGNREGS hnuai a vawng ngei turin min ti a. Heng Register te hi Village level ah Maintain a, fel taka vawn tur an ni a. A vawngtu tur hi V.C te ni mahse, a bialtu VLAA mawhpurhna liau liau a ni. Chung Register leh a fill up dan tur te chu –

REGISTER I – PART A JOB CARD APPLICATION REGISTER

Cover :

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER I - PART-A – JOB CARD APPLICATION REGISTER

Sl . No.	Job Card Numbers issued by GP (Job Card pek chhua h tawh zat)	Date on which Job Card Issued (Job Card pek chhua h ni)	Head of the HH/Other members (Chhung kaw lu ber leh midang te)	Age/ Sex	Relationship with head of HH (Chhung kaw lu ber nen inlaichin a)	SC/ST /Others	Whether AAY/Adhoc/APL/Women headed HH/FRA/SECC automatically included (AAY/Adhoc/APL/C hhungkaw lu hmeichhia/SECC data tel nghal a ni em)	Landholding in case of para5 (Ram neih zau zawng para 5 tan bik)	Bank/ PO Account linked to the JC (Bank/ PO Account JC nena inzawm)	Name of other Bank/ Post Office (Bank/ PO hming)	Individual Assets constructed, if any (Mimal huan/lo/ rama asset sian inih in)
1	2	3	4	5	6	7	8	9	10	11	12

REGISTER I – PART B

JOB CARD REGISTRATION REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER I - PART-B – JOB CARD REGISTRATION REGISTER

Name of the District: AIZAWL DISTRICT Name of the Block :												
Name of GP/VC :												
Sl. No	Date of Application for JC (Job Card dill ni)	Name of Applicant and other adult family member (Dil tu hming leh puitling dang hming)	Head of the HH (Chhungkaw hotu ber hming)	Age /Sex	Relationship (Inlaichina)	SC/ST/ Others	Whether AAY/Adhoc/APL/Women headed HH/FRA/SECC automatically included (AAY/Adhoc/APL/Chhungkaw lu hmeichhia/SECC data tel nghal a ni em)	Landholding in case of para5 (Ram neih zau zawng para 5 tan bik)	Accepted Or Rejected (Dilna pawm/pawm loh)	Date of Decision (Thutukna slam ni)	Job Card No issued (Job Card No pek)	Sign with remarks (Hming sign leh thil dang ziah luhna)
1	2	3	4	5	6	7	8	9	10	11	12	13

REGISTER I – PART C- JOB CARD ISSUE REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER I - PART-C-JOB CARD ISSUE REGISTER*(quarterly)

Sl. No	Job Card Number issued by GP (Job Card Number VC pek)	Date on which Job Card Issued (Job Card pek chhuah ni)	Head of the HH/Other members (Chhungkuaa lu ber leh midang te)	Age/ Sex	Relationship with head of HH (Chhungkaw hotu ber nen inlaichina)	SC/ST/ Others	Whether AAY/ADHoc/APL/Women headed HH/FRA/SECC automatically included (AAY/Adhoc/APL/Chhungkaw lu hmeichhia/SECC data tel nghal a ni em)	Landholding in case of para5 (Ram neih zau zawng para 5 tan bik)	Bank/PO Account linked to the JC (Bank/PO Account JC nen inzawm)	Name of other Bank/Post Office (Bank/PO dang hming)	Individual Assets constructed, if any(Mimal huan/lo/rama asset sianih in)
1	2	3	4	5	6	7	8	9	10	11	12

REGISTER I – PART D - HOUSEHOLD EMPLOYMENT REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

Register – I, PART-D HOUSEHOLD EMPLOYMENT REGISTER*(quarterly update)

Sl. No	Job Card Number	Name of family and other members who worked in this FY (Chhungkaw member tun sawrkar kuma chhunga hna thawk hming)	Age/Sex	Number of days work demanded (Ni thawh duh zat)	Number of days worked (Ni engzat nge an thawh)	Work code/Name of Work (Hna hming leh Work code)	MSR No.	Wages paid (Hlawh pek zat)	Wages due (Hlawh la bat)
1	2	3	4	5	6	7	8	9	10

REGISTER II – PART A

GRAM SABHA MEETING, RESOLUTION & PRIORITIZED LIST OF WORKS REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER II PART A - GRAM SABHA MEETING MINUTE, RESOLUTION AND PRIORITIZED LIST OF WORK REGISTER

Date of Gram Sabha (Gram Sabha neih ni)	Venue (A hmun)	No of household attended Gram Sabha (Chhungkua engzat nge lokal)	Resolution (Thu rel te)	Proposed List of Works (Hnathawh tur chhawpchuah te)
1	2	3	4	5

Name & Signature of Chairman/Convener

Name & Signature of Recording Secretary

REGISTER II – PART B

SPECIAL SOCIAL AUDIT GRAM SABHA MEETING, RESOLUTION & ACTION TAKEN REPORT REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER II PART B – SPECIAL SOCIAL AUDIT GRAM SABHA MEETING MINUTE REGISTER* (SAU lokal huna hman tur)

Date of Spl Social Audit Gram Sabha (Spl Social Audit neih ni)	Venue (A hmun)	No of household attended Gram Sabha (Chhungkua engzat nge lokal)	Minutes/Decisions/Resolution (Thurel/Ngaihtuahna/Rorelte)	Action Taken (Hmalakna te)
1	2	3	4	5

Name & Signature of Chairman, VMC

Name & Signature of Recording Secretary

REGISTER III

DEMAND FOR WORK REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER III – DEMAND FOR WORK REGISTER

Sl. No	J C	Name of the Worker (Hnathawktu hming)	Date of Application of Demand (Hna dilna thehluh ni)	Date from which work demanded (Hna dil tan ni)	No. of Days work is/ was demanded (Hnathawh dil ni zat)	Work code of the allocated work (Hna pekna Work code)	Muste r Numbe rs for the Alloca ted Work (Hna pek MR no)	Work From (Hna tan ni)	Work Till (H na ta wp ni)	Total No of Days worked per HH (Chhug kaw hna thawh ni zat)	Date of Wage paym ent (Hlaw h pek ni)	Amo unt Paid (Hlaw h pek zat)	Paid Unemployment Allowance, if any/Thawhlon hlawh pek	Paid Delay Compensation, if
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

REGISTER IV – PART A

ALLOCATION OF WORKS REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	

PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)
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REGISTER No IV – Part A – WORK REGISTER

S. No.	Work Code/Work Name (Hna hming/ Hna code)	Priorit y no. From the shelf of Works (Shelf of work atangi n engz tna nge)	Date of TS Attach TS (TS ni/th il tel tur)	Date of AS Attach AS (AS ni/th il tel tur)	Impleme nting agency GP/Line Departme nt (Hna enkawltu hming VC nge Deptt dang)	Date of starti ng work (Hna tan ni)	Estimat e Date of comple tion (Hna zawh beisei ni)	Actual Date of comple tion (Hna zawh ni)	Sanctio ned Unskille d (Mihrin g tha zat sanctio n)	Sanctio ned Material (Materia l zat sanctio n)	Pa ge No.
1	2	3	4	5	6	7	8	9	10	11	12

REGISTER IV – PART B

DETAILS Of WORK CODE & PAYMENT REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
REVIIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER IV Part B – WORK WISE DETAILS OF WORK CODE/WORK NAME

Wage Payment Detail

SI.No.	MSR No.	Wage List No.	Person Days	Amount Paid	Amount Due
	Total			5,2640	

Material Payment Detail

SI.No.	Bill No.	Voucher No.	Bill Date	Amount Paid	Amount Due
1	1	1	12/05/17	1,2000	-
	Total				

Skilled/ Semi Skilled Payment Detail

SI.No.	MSR No	Wage List No	Persondays	Amount Paid	Amount Due
1	715	4	34	6789	-
	Total				

Wage		Material		Skilled/Semi Skilled		Total	
Amount Paid	Amount Due	Amount Paid	Amount Due	Amount Paid	Amount Due	Total Paid	Total Due

REGISTER VI

COMPLAINT REGISTER

NAME OF STATE		
NAME OF DISTRICT		
NAME OF BLOCK		
NAME OF VILLAGE		
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)		LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER VI - COMPLAINT REGISTER

SI.No.	Complainant category (Sawiseltu nihna)	Complaint Date (Thehluh ni)	Complaint Description (Sawisel dan kimchang)	Complaint Against (Enge/Tung e a sawisel)	No. of Escalation (Chhawn g engzah ah nge tihfel a nih)	Escalation Detail (A chinfelna chhawngt e dinhmun)	Action Taken (Hmalak dan)	Action Taken Date (Hmalak ni)
1	2	3	4	5	6	7	8	9

REGISTER VII – PART A

MATERIAL REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER No VII - MATERIAL REGISTER

S I. N o	Wor k N a m e (Wo rk cod e)	Date of start ing of work (Hna tan ni)	Estimat ed Date of Comple tion (Hna zawh beisei ni)	Voucher /Bill No.	Bil l D a t e	Vend er N a m e a n d TIN- mate rial wise	Mater ial Detai l	Mater ial Quan tity in unit	Tot al Pri ce (in Rs)	Entry on the Stock Regis ter (Page No.)	Openi ng Balan ce Stock	Closi ng Balan ce Stoc k	Sig n by the Te ch As st
1	2	3	4	5	6	7	8	9	10	11	12	13	14

REGISTER VII – PART B

WORKSITE INSPECTION REGISTER

NAME OF STATE	
NAME OF DISTRICT	
NAME OF BLOCK	
NAME OF VILLAGE	
PREVIOUS REFERENCE (LO CHHINCHHIAH TAWHNA)	LATER REFERENCE (A HNUA CHHINCHHIAHNA)

REGISTER VII - WORKSITE INSPECTION REGISTER

Sl. No	Name of Official	Designation	Name of Work inspected	Purpose of Inspection	Time of Arrival	Time of Departure	Dated	Remarks	Signature
1	2	3	4	5	6	7	8	9	10

**FIXED ASSET REGISTER
MGNREGA WORKS**

Name of the Gram Panchayat	
Name of the Block	
Name of the District	
Name of the State	
Previous Reference	Later Reference

Asset Sr.No. ___1___

Page No. ___1___

Part-A Details of the Asset

Name of the Village

Address:

1.Asset ID		
2.Name of the Asset		
3.Class of the Asset		
4.Description of the Asset		
3.Date of Completion of Primary Asset		
6.Individual Beneficiary(if applicable)		JC Number:274
7.Name of the Scheme(s) used under Convergence		

(Signature)

Name & Date...
Secy VEC

Asset Sr.No. ___1___

Page No. ___1___

Part-B: Work Detail of Asset

Sl.No.	Work ID	Date of completion of work	Work Name	Person Days	Expenditure(Rs.)			Name & Signature
					Unskilled Labour	Material including Semi/Skilled Labour	Others Funds	
1	2	3	4	5	6	7	8	9

Chapter – III

MGNREGS HNUAIA HNA THAWH PHALTE

Kum 2014 January ni 3 khan Ministry of Rural Development, Government of India chuan MGNREGS hnuaia hnathawh phal chin a rawn siam thar a. Chutah chuan Category 4 rawn siamin, District Programme Coordinator (DPC) chuan district level a sum sen tur zawng zawng atanga chhuta hna awm zat zaa sawmruk panga (65%) aia tlem lo chu productive asset a siam tur a ni a. Chung te chu **directly linked to agriculture and allied activities through development of land, water and trees** a ni tur a ni.

Category A ah chuan mipui ten a huhova khuarel thil siam enkawl leh siamthatna tur kawnga kan thawh flan dual dual tur theih tur ang hnate a ni a. chung te chu –

- (i) Tui hna humhalh leh tihtharna hna te;
- (ii) Leilung hangtha luangral tur leh lei chhungril a tuihna chamban tirna tur hna hrang hrang heng contour trench, terrace, contour bund, boulder checks, Brushwood Check dam leh gabion structure siam te;
- (iii) Tui lakna kawng tenau siam te,
- (iv) Tuikhur hiahfai te,
- (v) Ramngaw siam (afforestation) te,
- (vi) Vantlang rama Land Development lam hna thawh.
te a ni a.

Category B-ah thung chuan mirethei, a mamawhtu mimal huana hnathawh theih tur ang chite a ni a. Heng hna thawksak tur te chu Paragraph 5-naa tarlan chhungkua te an ni tur a ni a, chung te chu :-

- 1) Scheduled Castes (SC)
- 2) Scheduled Tribes (ST)
- 3) Nomadic Tribes
- 4) De-notified Tribes
- 5) BPL chhungkua
- 6) Hmeichhia lu ber a nihna chhungkua
- 7) Pianphunga rualbanlo lu ber a nihna chhungkua
- 8) Land Reforms chhawrtu
- 9) IAY dawngtu

10) Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (2 of 2007) hnuiaia beneficiary te.

Category B hnuiaia hna thawh theih te chu -

- (i) Hlawk zawka thlai an thar chhuah theihna tura mimal ram cheibawl te, tuichhunchhuah siam te, thlai chawmna atana tuikhuah (farm ponds) siam te leh tui dahkhawl na zem siam te,
- (ii) Horticulture, sericulture, plantation leh farm forestry kaltlanga eizawmna tihhmasawn te,
- (iii) Thlai chinna tlaka rambua tawh siam thar lehna tura cheibawl te,
- (iv) Mirethei in sak tanpui te,
- (v) Ar in sak te, kel in sak te, vawk in sak te, bawng in sak leh ran chaw tur chin te,
- (vi) Sangha phoro-na siam leh vantlang rama sangha dil siam hi a ni a.

Category C ah chuan Self Help Group te tan bika thawh theih tur chi hna chi hrang hrang heng -

- (i) Leitha siam te, thlai tharchhuah dahthatna tur in sak te,
- (ii) Common work-shed siam te a ni a.

Category D ah chuan khawtlang hmasawmna tur ruhrel siam hna chi hrang hrang -

- (i) Mimal leh vantlang inthiarna siam te, bawlhhlawh sawngbawl na siam te,
- (ii) Kawng laih te,
- (iii) Khelmual (playground) siam te,
- (iv) Chhiatrupna laka invenna kaihhnawih hna hrang hrang te,
- (v) Vantlang in sak te,
- (vi) National Food Security Act 2013 hlawhtlinna tura buhfai leh chaw lam chi dah thatna tur go-down siam.
- (vii) MGNREGA hnuiaia hna thawh tura building material mamawh siam te,
- (viii) MGNREGA hnuiaia thingtlanga vantlang ro (asset) siam enkawl leh
- (ix) Central sawrkar-in state sawrkar rawn chung a hnathawh phal tura a chhuah (notify) thar apiang.

MGNREGA thil tum kan hriat chian hle a tul a. Hna thawh phal chin leh phal loh chin pawh kan hriat a pawimawh. Kan hna thawh tur hian kan khawtlanga mi harsa te ei leh bar zawmna a tiphuisuiin, ram ngaw, leilung leh tuihna humhalhna kawngah a pui tur a ni.

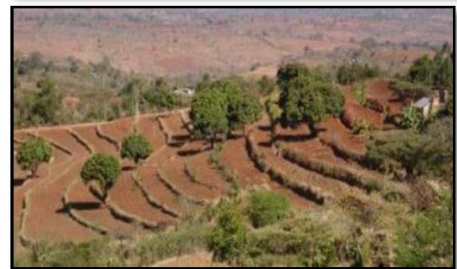
Category A: Leilung humhalh na lam thawhna vantlang huap

MGNREGA chuan HNA thawh tur ngaihpaawimawh hmasak – Tui, leilung leh ramngaw humhalh lam kaihnawih chu Category A-ah a dah a ni. Heng zinga kan hman theih tlanglawn deuh deuh te chu a hnuaiah hian han tar lang ila:

- **Contour Trenches:** Ruahtui luang ral mai lova lei chhungril lama puh luh tir turin, tlang panga tlang dung kham zawnga lei laihkhwar a ni. Hmun awih lutukah chuan lei min a siam theih avangin hman chi a ni lo.



- **Contour bunds:** Hmun awih nasa vak lovah chuan ruahtui leh leilung luangral tur venna atan, mual khang zawngin leivung an chhung pawng thin. Hei hian lei tha kal ral tur a ven mai bakah, leilung hnawanna a belhchhah thin a. Thlai thar a hlawkin, leilung chhe chak lutuk tur nasa takin a veng thei a ni.



- **Terrace:** Terrace hi tlangram lei lung leh tui luang ral tur venna tha tak a nih rualin, hmun awih lutukah chuan, lei min a siam theih avangin, laih loh a tha zawk thin. Tin, terrace kan laih lain, lei chunglang hang tha (top-soil) kan dah that loh chuan lei tihchhiatna a ni thei. Kan terrace laih chu thlai china atana hman nghal theih tur chuan lei chunglang chu terrace zawlah dah let leh a, rual taka chap darh tur a ni. He hna hi a hautak viau anga a lan lain, lei chunglang dah let leh lova, lei tihthat tum hi a hautak fe zawk a ni.



- **Boulder checks:** Lui kawr leh ruamah te tui hawkin lei a hawrh nasa lutuk venna tur te, tui hawk luang chak lutuk tur leh lei lung kal ral nasa lutuk tur venna atn lung an rem khawm thin a, hei hian nasa takin kawr kam leite tuiin a kal ralpui tur a veng thei.



- **Gabion structures:** Italian tawng 'gabione' atanga lak niin chu chu "big cage" tihna a ni. Thir len hmangin lung chu fel fei takin an



phuar khawm a. Block hrang hranga siam a ni thin. Tui lianin luikam a la hek zel tur venna leh tui luang chak lutuk tur a veng thei a; lei nawi leh hnawl te a dang khawmin, a thlang lama lui/tuikhuaha leinawi lut tur a ven bakah Leichhungah tui a lut a, tuihna tihpunna a ni thei bawk.

- **Brushwood checkdam:** Hei hi thing hmanga checkdam siam a ni. Lui leh kawrah te chuan thingtuai, thingzai leh maute an phun tlar a. Chutah chuan a zal (a pheih zawngin) zing takin an kham leh thin. Hemi tinghehna atan hian a thlang lam atanga dona siam pawh a tangkai thei hle. Tui a lo kal chuan thing karah a put tlang mai thin a, hnawl leh lei nawi te chu lo tling khawmin a lo inkhuap ta thin a; hun a lo kal deuh chuan a lo inhnawh khat vek thin. Hei hian tui luang chak lutuk tur leh leilung kalral chak lutuk tur vengin, a chheh vel leh a thlang lam ramah te hnawnna a pein, thal lain tuihna a tipung thei a ni. He hmuna lei nawi chambang te hi lei tha tak a ni thin a, thlai chammna atn te pawh a hman theihthin a ni.



- **Tuilak kawng:** MGNREGA hian tui lakna kawng (irrigation canal) siam a phal a. Hei hian thlai thar nasa takin a tihlawkin, mi rethei leh dinhmun chhe zawk te chawikanna tura pawimawh tak a ni. Tui lak hi mau leh hmanraw dang hmang pawhin a tih theih a ni. Hmun thankhatah chuan Cement concrete hmang te pawhin tui kawng hi an siam bawk thin.



- **Ramngaw siam:** Ramngaw hian leilung leh tui luangral tur a veng a, boruak thianghlim min pe bawk. Thal laia tuihna tha tak nei tur chuan ramngaw te hi kan mamawh em em a ni. Ramngaw chhungah thlai leh rannung chi hrang hrang kan mamawh tam tak a awm thin. Ramngaw siam hi thil pawimawh tak a ni a; chuvangin MGNREGA hnuaiyah pawh dinhmun pawimawh tak a luah a ni.



- **Block Plantation:** Block Plantation-ah chuan thlai inang tlang kha a hlawm hrangin an phun thin a. Hei hi a ram leilung awm dan azira hman theih a ni. Hetiangah hian thlai thar te a



hlawkin enkawl a nuam a; kuthna thawktute eizawna tih hmasawna atana thil pawimawh tak a ni.

- **Roadside Plantation:** Roadside Plantation hi PMGSY kawngpui leh kawngpui dang kamah te siam theih a ni. Kawngpui hnai berah chuan thing kung te deuh chi phunin, a dawtah chuan a laihawl chi leh a tlar thumnaah chuan thing lian leh daihlim chi phun tur a ni a;kan thlai phun chu kawng kam atanga 0.5m a hlaa phun tur a ni. Thlai kung chu 4-6 meters kar danah phun tur a ni. Tlar tin inhlat zawng chu 3 meters tal a ni tur a ni. Hei hian kawng himna thlenin, leilung leh tui luang ral tur te. Lei min tur te a veng thei dawn a ni. Thlai kung 200 phun leh enkawl hna chu mi harsa chhungkaw 1 kutah dah zel theih a ni. An enkawl puitlin hunah chuan thlai atanga hlawkna pawh a enkawltu chhungkua ten an chhawr tangkai thei ang.



Category B : Vantlang leh mimal ro thil siam

- **Percolation Tank:** Hei hi mimal huanah pawh siam theih a ni a, thlai chawmna tan pawh an hmang thei ang. A chhuat hi zut phui a nih loh avangin, lei chhungah tui a put lut thin a chua chuan a chheh vel ram tihnawngin, a thlang lam ramah tuihna te a siam thei thin a ni. Tin, Sangha leh tui lam sate khawina atan pawh a hman theih thin a ni. Percolation tank hi farm pond ang pawhin a hman theih bawk a ni. Dug-out pods pawh siam theih a ni. Hei hi lei laihkhua ruahtui emaw, lui tui emaw lak a ni thin.



- Eizawna tih hmasawna tura hna chi hrang hrang.
- Thlai china tlaka ram bua tawh cheibawl leh tuai thar.
- PMAY-G atanga in sak tanpuina dawngtu te tan IHHL siamna turin Rs. 12,000.00 dawn theih a ni. Chutih rualin, SBM hnuaia tanpuina dawng tawh chu pek theih a ni lo.

Category C: Vantlang ro leh SHG, leilung humhalh lam hna zawmtute tan

- Lei tha siam chhuahna chi hrang hrang leh hna thawhna hmun siam
- **NADEP Composting leh Vermi-composting:** NADEP Composting hi hnim hnah, ran ek leh zun atanga lei tha siamna a ni a; Vermicomposting chu Bawng ek leh changpat hmanga leitha siam dan a ni.



- Hna thawhna In: Thingtlang mite hian hna thawhna/ thil siamna hmun an mamawh em em thin a, an mahnia an siam theih si loh, tanmgkai taka an chhawr tur chu MGNREGS atanga siam sak theih a ni. A bik takin, Leilung chereu zel lo zawnga hma la SHG te tan pawh heng hi siam theih a ni. In sakna atan tha 95 an dawng theiin, MGNREGA hnuiaia building materials te a thlawnin an dawng thei bawk ang.



Category D: Hetah hian thingtlang khuaa mimal leh vantlang rotling thil (infrastructure) siam theih a ni.

- Inthiarna: Mimal leh vantlang inthiarna hmun siam theih a ni.
- Thil thar chhuah dah thatna leh National Food Security Act 2013 a hlawhtlin theihna tura buhfai dah thatna (go-down) pawh sak theih a ni.



- Kawng Laih: Thingtlang khawtin chu fur/thala motor luh theihnaa siam tum a ni. PMGSY kawngin a la pawh ngai lohna khua chauh thlan tur a ni a. Chumi a nih loh pawhin, kawng lo siam tawh a nih pawhin Cement concrete-a siam a nih chuan kum 10 tal aliam tawh tur a ni. Alkatra luan a nih chuan kum 5 tal a liam tawh tur a ni. Rural Production Centre (thil tar chhuahna hmun) anga pawm a nih chuan khawchhungkawng leh kawthler te pawh side-drain leh culvert nen siam theih a ni.

Hna thawh theih hrang hrang te hi Master Circular 2017-2018, Chapter 7.2-ah chiang taka tarlan a ni.

LIST OF PERMISSIBLE WORKS UNDER MGNREGA WITH WORK CODE				
Category	Work Code	Description of Work		Individual / Community
Category-I	Category - A : Public works relating to natural resources management			
Category-I		1.1	1) Water conservation and water harvesting structures to augment and improve ground water like underground dykes, earthen dams, stop dams, check dams with special focus on recharging ground water including drinking water sources	
Category-I	WC	1.1.1	Anicut	Community
Category-I	WC	1.1.2	Sub Surface Dam	Community

Category-I	WC	1.1.3	Artificial Recharge of Well Through Sand Filter / Recharge Well / Injection Recharge Well / Bore well Recharge Pit	Community
Category-I	WC/ IF	1.1.4	Boulder Check	Community
Category-I	WC	1.1.5	Box Trenches	Community
Category-I	WC	1.1.6	Check Dam / Multi Arch Check Dam	Community
Category-I	WC	1.1.7	Continuous Contour Trench	Community
Category-I	WC /IF	1.1.8	Contour Bunds	Community
Category-I	IF / FP	1.1.9	Cross Bund	Community
Category-I	WC/IF/FP	1.1.10	Diversion Drain / Diversion Channel	Community
Category-I	WC/LD	1.1.11	Earthen Bunding	Community
Category-I	WC	1.1.12	Earthen Dam	Community
Category-I	WC/IF	1.1.13	Earthen Gully Plug	Community
Category-I	WC	1.1.14	Feeder Channel	Community
Category-I	WC	1.1.15	Gabion Structures	Community
Category-I	WC/IF	1.1.16	Loose Boulder Structure	Community
Category-I	WC	1.1.17	Mini Percolation tank / Water Pool or Pond	Community
Category-I	WC	1.1.18	Staggered Trench	Community
Category-I	WC/LD	1.1.19	Stone Bund	Community
Category-I	WC	1.1.20	Stop Dam / Vented Dam	Community
Category-I	WC	1.1.21	Sunken Pond	Community
Category-I	DW/IF	1.1.22	Underground Dyke / Krishi Bhavi/ Dug Wells	Community
Category-I	WC	1.1.23	Water Absorption Trench	Community
Category-I		1.2	2) Watershed management works such as contour trenches, terracing, contour bunds, boulder checks gabion structure and spring shed development resulting in a comprehensive treatment of a watershed	
Category-I	WC	1.2.1	Contour Trenches	Community
Category-I		1.3	3) Micro and minor irrigation works and creation, renovation and maintainence of irrigation canals and drains;	
Category-I	IC	1.3.1	Construction of Canal, Distributary and Minor	Community
Category-I	IC	1.3.2	Community Well for Irrigation	Community

Category-I	IC	1.3.3	Lift Irrigation	Community
Category-I	IC	1.3.4	Lining of Canals	Community
Category-I	IC	1.3.5	Rehabilitation of Minors, Sub-minors	Community
Category-I		1.4	4) Renovation of traditional water bodies including desilting of irrigation tanks and other water bodies	
Category-I	WH/FP	1.4.1	Desiltation of irrigation tanks	Community
Category-I	WH	1.4.2	Desiltation of other water bodies	Community
Category-I	WH	1.4.3	Renovation / Rejuvenation	Community
Category-I	WH/FP	1.4.4	Strengthening of Embankment	Community
Category-I		1.5	5) Afforestation, Tree plantation and Horti-culture in common and Forest lands, road margins, canal bunds, tank foreshores and coastal belts duly providing right to usufrut to the households covered in Paragraph 5; and	
Category-I	DP	1.5.1	Afforestation	Community
Category-I	CA/IF	1.5.2	Belt Vegetation	Community
Category-I	IF/FP	1.5.3	Bio Drainage	Community
Category-I	IF	1.5.4	Boundary Plantation	Community
Category-I	IF	1.5.5	Construction of Contour	Community
Category-I	IF/DP	1.5.6	Eco Restoration of Forest	Community
Category-I	DP	1.5.7	Forest Protection	Community
Category-I	DP	1.5.8	Grass Land Development and Silvi-pasture	Community
Category-I	IF	1.5.9	Land development / Land Levelling and Shaping	Community
Category-I	DP/IF	1.5.10	Nursery Raising	Community
Category-I	DP/IF	1.5.11	Plantation	Community
Category-I	DP	1.5.12	Plantation in Government Premises	Community
Category-I	DP	1.5.13	Road/Canal Side Plantation / Block Plantation	Community
Category-I		1.6	6) Land development works in common land	
Category-I	LD	1.6.1	Pebble Bunding	Individual / Community
Category-I	LD/IF	1.6.2	Development of Waste Land	Community
Category-I	WC/LD	1.6.3	Earthen Bunding	Community
Category-I	LD	1.6.4	Land Leveling	Individual / Community

Category-I	LD/ IF	1.6.5	Reclamation of Land	Community
Category-I	IF	1.6.6	Reclamation of Saline/Alkaline Land	Community
Category-I	LD	1.6.7	Stone Terracing	Community
Category-II			Individual assets for vulnerable sections (only for Households in Paragraph 5)	
Category-II		2.1	1) Improving productivity of lands of Households specified in Paragraph 5 through land development and by providing suitable infrastructure for irrigation including dug wells, farm ponds and other water harvesting structures;	
Category-II	WC /IF	2.1.1	Farm pond	Individual
Category-II	IF	2.1.2	Field Bunding / Construction of Farm Bunding	Individual
Category-II	IF	2.1.3	Construction of Graded Bund	Individual
Category-II	IF	2.1.4	Construction of Water Courses/Field Channel	Individual
Category-II	IF	2.1.5	Lining of Water Courses/Field Channel	Individual
Category-II	IF / DW	2.1.6	Borewell Recharge Pit for Agricultural Purpose	Individual
Category-II		2.2	2) Improving Livelihoods through Horticulture, Sericulture, Plantation and Farm Forestry;	
Category-II	IF	2.2.1	Horticulture	Individual
Category-II	IF	2.2.2	Sericulture	Individual
		2.2.3	Rubber Plantation	Individual
Category-II		2.3	3) Development of Fallow or waste lands of Households defined in Paragraph 5 to bring it under cultivation;	
Category-II		2.4	4) Unskilled wage component in construction of houses sanctioned under the Pradhan Mantri Awaas Yojana or such other State or Central Government Scheme;	
Category-II	IF	2.4.1	House (other State or Central Government Scheme)	Individual
Category-II		2.4.2	PMAY House	Individual
Category-II		2.5	5) Creating Infrastructure for promotion of livestock such as, poultry shelter goat shelter, piggery shelter, cattle shelter and fodder troughs for cattle; and	
Category-II	IF	2.5.1	Cattle and Goat / Sheep shed	Individual
Category-II	IF	2.5.2	Pig shed	Individual

Category-II	IF	2.5.3	Poultry Shed	Individual
Category-II	IF	2.5.4	Azolla as Cattle-Feed Supplement	Individual
Category-II		2.6	6) Creating Infrastructure for promotion of fisheries such as, fish drying yards, storage facilities, and promotion of fisheries in seasonal water bodies on public land;	
Category-II	FR	2.6.1	Fish culture pond / Excavation of Pond	Individual
Category-II	FR/ CA	2.6.2	Fish Drying Yards / Fish Drying Platform	Community
Category-III	Common Infrastructure for NRLM compliant self-help groups			
Category-III		3.1	1) Works for promoting agriculture productivity by creating durable infrastructure required for Bio-fertilizers and Post-harvest facilities including Pucca storage facilities for agricultural produce;	
Category-III	OP	3.1.1	Infrastructure for NADEP composting	Individual
Category-III	OP / IF / RS	3.1.2	Infrastructure for Vermi composting / Compost Pit	Individual
Category-III	OP	3.1.3	Infrastructure for Berkley composting	Individual
Category-III	OP / IF	3.1.4	Infrastructure for Liquid bio manure	Individual
Category-III	OP	3.1.5	Infrastructure for Bio fertilizer-Other(to be Mention)	Community
Category-III		3.1.6	Threshing Yard	Community
Category-III		3.2	2) Common workshed for livelihood activities of self-help groups.	
Category-III	AV	3.2.1	Sanieevani shed (Work Shed) / Construct building for federation of women SHG	Community
Category-III		3.2.2	Cattles Drinking Water Trough	Community
Category-IV	Rural Infrastructure			
Category-IV		4.1	1) Rural sanitation related works, such as IHHL, School Toilet Unit, Anganwadi Toilets either Independently or in Convergence with Schemes of Other Government Departments to achieve Open Defecation Free (ODF) status and Solid and liquid Waste Management as per prescribed norms	
Category-IV	RS / DW / IF	4.1.1	IHHL with Leach Pit / Soak Pit/ Soakage Channel / Toilet for PMAY houses / other	Individual
Category-IV		4.1.2	Solid Waste Management Unit	Community
Category-IV	RS	4.1.3	Stabilization OF Pond	Community

Category-IV		4.2	2) Providing all-weather rural road connectivity to unconnected villages and to connect identified rural production centres to the existing pucca road network and construction of pucca internal roads or streets including side drains and culverts within a village :	
Category-IV	RC	4.2.1	Cement Concrete road	Community
Category-IV	RC	4.2.2	Rural Connectivity road / Gravel Road	Community
Category-IV	RC	4.2.3	Village Drain	Community
Category-IV	RC	4.2.4	Bitumen Top	Community
Category-IV	RC	4.2.5	Cross Drainage	Community
Category-IV	RC	4.2.6	Inter-locking Cement Block Road	Community
Category-IV	RC	4.2.7	Metal First coat	Community
Category-IV	RC	4.2.8	Metal Second coat	Community
Category-IV	RC	4.2.9	Mitti Murram Road	Community
Category-IV	RC	4.2.10	Restoration of roads	Community
Category-IV	RC	4.2.11	Water Bound Macadam	Community
Category-IV		4.3	3) Construction of play fields	
Category-IV	PG	4.3.1	Play Ground	Community
Category-IV		4.4	4) Works for improving disaster preparedness or restoration of roads or restoration of other essential public infrastructure including flood control and protection works, providing drainage in water logged areas, deepening and repairing of flood channels, Chaur renovation, construction of storm water drains for coastal protection;	
Category-IV	FP	4.4.1	Cement Concrete Drain	Community
Category-IV	IF / FP	4.4.2	Bio Drainage	Community
Category-IV	FP	4.4.3	Chaur Renovation	Community
Category-IV	FP	4.4.4	Construction of Intermediate and Link Drains	Community
Category-IV	FP	4.4.5	Construction of Storm Water Drains	Community
Category-IV	IF / FP	4.4.6	Cross Bund	Community
Category-IV	IF / FP	4.4.7	Deepening and Repair of Flood Channels	Community
Category-IV	IF / FP	4.4.8	Diversion Channel	Community
Category-IV	FP	4.4.9	Diversion Weir	Community
Category-IV	IF / FP	4.4.10	Drainage in Water Logged Areas	Community

Category-IV	IF / FP	4.4.11	Peripheral Bunding	Individual / Community
Category-IV	FP	4.4.12	Restoration of Public Infrastructure	Community
Category-IV	FP	4.4.13	Spurs and Torrent Control Measures	Community
Category-IV	CA	4.4.14	Storm water drains for Coastal Protection	Community
Category-IV	WH / FP	4.4.15	Strengthening of Embankment	Community
Category-IV	RS	4.4.16	Drainage Channel	Community
Category-IV	IF	4.4.17	Construction of Drainage Channel	Community
Category-IV		4.5	5) Construction of building for Gram Panchayats, Women self-help groups federations, cyclone shelters, Anganwadi centres, Village Haats, Crematoria at the Village or Block level	
Category-IV	AV	4.5.1	Rajiv Gandhi Seva Kendra / Construction of Building for Gram Panchayats (New Construction / Upgradation or Extension)	Community
Category-IV	AV	4.5.2	Anganwadi buildings (AWC) / Anganwadi Toilet/ School Toilet	Community
Category-IV	AV	4.5.3	Construction of Cyclone shelters	Community
Category-IV	AV	4.5.4	Construction of Village Haats	Community
Category-IV	AV	4.5.5	Crematorium (Crematory / Kabaristhan)	Community
Category-IV		4.6	6) Construction of food grain storage structure for implementing the provisions of the national security	
Category-IV	FG	4.6.1	Godown building / Food Grain	Community
Category-IV	IF	4.6.2	Onion storage buildings	Individual
Category-IV	OP	4.6.3	Post -harvest facility including pucca storage facility for agricultural produce (to	Community
Category-IV		4.7	7) Production of building material required for construction under the Act.	
Category-IV	OP	4.7.1	Production of building material	Community
Category-IV		4.8	8) Maintenance of rural public assets created under the Act; and	
Category-IV	OP	4.8.1	Maintenance of rural public assets	Community
Category-IV		4.9 (a)	9) Any other works which may be notified by the central government in consultation with the state government in this regard.	
Category-IV	AV	4.9.1	Compound Wall	Community
Category-IV	RC	4.9.2	Kharanja (Brick/Stone)	Community

Category-IV		4.9.3	Kitchen with Dining hall at School	Community
Category-IV		4.9.4	Community Cattle Shed	Community
Category-IV		4.9 (b)	The order of priority of works shall be determined by each Gram Panchayat in the meetings of the Gram Sabha keeping in view potential of the local area , its needs, local resources and in local accordance with the provision of Paragraph 9.	
Category-IV		4.9 (c)	Work which are non tangible, not measurable, repetitive such as, removing grass, pebbles, agricultural operations, shall not be taken up	

Chapter - IV

MGNREGS HNUAIA PLAN SIAM DAN

Hma kan sawn dawn chuan inthlakthleng (Change) leh thang (Growth) a awm tur a ni a. Hmasawwnna kan han tih mai hi ‘Change’ leh ‘Growth’–ina a siam a ni. ‘Change’ ringawt emaw, ‘Growth’ ringawt emaw hi hmasawwnna a tling lo. A pahnihna an kalkawp tlat hian hmasawwnna (Development) kan tih hi a lo awm thin a ni. Hmasawn tur chuan kalhmang nei taka RUAHMANNA (Plan) siam a tul a. Chutah pawh chuan a chung lam atanga thuai lova, a bulthut (Grass root level) a ruahmanna siam a pawimawh.

- Ram hmasawwnna chu mi tam ber hlawkpuiinaa a inngat a ni a, mi tlemte hlawkpuiina hi ram hmasawwnna a tling thei lo.
- Mipuiin neitu rilru an put a, tha leh zung an thawh ve a tul a ni.
- Mirethei te khaichhuahna atana pawimawh ber chu Pawisa nilovin, an rilru siam hmasak a ni.
- An thiamna leh theihna hmang tangkai tura tanpui a pawimawh.
- Sorkarin miretheite tihchangkana tura ruahmanna leh vilzuina a siam (Planning, Implementation, Monitoring leh Evaluation)-ah anmahni an tel a tul a ni.
- Mipuiin tha an thawh tam poh leh hmasawwnna tha zawk a thlen ngei ngei thin.

Ruahmanna Siam Dan:

Ni Za inhlawnain a tum ber chu Mirethei ten lei rem an lo rah ve theih a, ei zawwna kumhlun leh daih rei an neih theihna tura tanpui hi a ni. Mumal leh awmze nei zawka MGNREGS kalpui anih theihna turin Integrated Participatory Planning Exercise (IPPE) tih a ni. Mirethei ten tangkai zawka an chhawr theih dan tur a a ngai pawimawh a ni.

- Ruahmanna (Plan) tha tak kan siam dawn chuan kan siam chhana te an tel ngei tur a ni a. Chuta tan chuan thuneihna semzai (Decentralization) hi a tel a ni tih hriat tur a ni.
- Tha zawk leh awmze neia hmasawwnna kawng kan zawh theih nan Thuneihna semzai hi a tul a ni.
- Ram hmasawwnna thlen tak tak tur chuan mitinin tha leh zung, ngaihtuahna kan sen tlan a tul a.
- Khawchhunga mi tam berin an pawm tlan theih thutlukna tha siam tur chuan mipui hnena thuneihna pek tur a ni a.
- Lo ngaihtuah pawl chu an awm hmasa ngei tur a ni a, chung mite ngaihtuahna leh hmalak tum dan chu Vantlang Rorel Inkhawm (Gram Sabha) ah an put luh a, an pawm tlan chauh hian hian mipui chuan tel ve nia inhriatna an nei ang a, chu chuan rah tha zawk a chhuah thei ang.
- MGNREGS hnuaiia Plan kan siam dawn chuan a hmasa berin Village Council chuan khawtlanga parawn deuh deuh lo kohkhawm hmasa sela, chung zinga chuan Zirtirtu te, sorkar hnathawk te, NGO hruaitu leh Kohhran hruaitute te pawh telin kohkhawm nise.
- Anni hian kum thara MGNREGS hmanga an khuaa pawisa lut thei zat lo chhut chhuak hmasa se.
- An lo ngaihtuah lawk te chu mipuiah hrilhfiain, Gram Sabha ah mipui thutlukna chu mipui kutah dah se a tha hle ang.

Hna thawhna tur pawisa chhut chhuah dan:

Hetiang deuh hian tih hmasak dan tur indawt chu a sawi theih ang. Khawtin hian MGNREGS hnuai an khuua pawisa lut thei tur zat chu awlsam tein an chawk chhuak thei a ni. Hetiangin -

Tuna Job Card awm zat kha an hre sa a, kum tharah chuan a pung ngei turah beisei ila; a punna zat tura rin kha belh tel se, an belh chhuah chu kum thara an khuua Job Card awm tur zat chu a ni.

Entirna:

Zawlsei khuuah chuan kuminah Job Card 110 a awm mek a, kum tharah chuan Job Card thar 5 awm turah beisei ila; tichuan, kum thara Job Card awm tur zat chu 115 a ni.

Wage Component (Mipui inhlawhna)

- Kum thara mipui inhlawhna tha zat tur : $JC\ 115 \times Ni\ 100 = \text{Tha } 11,500$
- Mi 1 nikhat hlawh = Rs. 194.00
- Kum khat chhunga hlawh tur pawisa zawng zawng: $\text{Tha } 11,500 \times \text{Rs. } 194 = \text{Rs. } 22,31,000.00$ (Cheng nuai 22.31)

Material Component (Hmanrua leh kutthemthiam ngai hna)

Material component hian 40% a pel tur a ni lova, Mizoramah tunah hian 90:10 ratio hman a ni. Chumi awmzia chu kan pawisa hman tur pumpui 100-a 90 chu mipui inhlawhna tur a ni a, Mistiri leh bungraw, etc. atan 100-a 10 chauh a hman theih tihna a ni.

- $10/90 \times \text{Hlawh tur pawisa}$
- $10/90 \times \text{Rs. } 22,31,000 = \text{Rs. } 2,47,889.00$

Kum khat atana inhlawhna (wage) leh materials component
= $\text{Rs. } 22,31,000.00 + \text{Rs. } 2,47,889.00 = \text{Rs. } 24,78,889.00$

Material cost hi zaa 75 hi Central tum tur a ni a, zaa 25 chauh hi State sorkarin a tum tur a ni thung.

Administrative Cost (Thawktute inenkawlna)

Central pawisa min pek atanga zaa paruk (6%) chu hnathawktute inenkawlna (administrative cost) atan dah tur a ni a, State sorkarin MGNREGS hnuai a hrana thawktu a ruai a nih chuan ama tum tur a ni thung.

Administrative cost hi State Level atanga village level thlengin hna thawktute hlawh leh office inenkawlna tur a nih avangin a indaih lo nasa hle thin. Chuvangin Village level-ah chuan tam tak hman tur a awm thei lo a ni.

Mipui hna thawh tur ruahman dan:

A chung a pawisa awm zat mil hian khaw tinah MGNREGS hnuai hnathawh tur chu ruahman tur a ni. Amaherawh chu, MGNREGS hnuai hian duh duh hna a thawh theih ngawt lova, HNATHAWH PHAL BIK (Permissible works) chauh thawh tur a ni. Chung Permissible work hna te chu a chung lama kan tarlan tawh hna te hi a ni. A chung lama kan tarlan tak ang hian Hnathawh phal bik-ah pawh hian Hna kan thlan zawng zawng atanga zaa 65 (65%) tal chu Lo neih lam kaihnawih (Agriculture related work) a ni tur a ni.

Hnathawh tur thlan dan :

MGNREGS hnuai a uluk taka Hna kan thlan dawn chuan Participatory Rural Appraisal (PRA) tih dan hman tur a ni a, chungte chu :-

PAIR-WISE RANKING METHOD: Pair-wise ranking method hi hna thawh tur thlan chhuahna atan a hman theih a ni. Mipui vantlangin thil mamawh tam tak an nei a. Mahse thil zawng zawng an nei nghal vek thei lo. Sawrkar lam atang pawhin thil tihsak dawn se, an mamawh leh an ngaih pawimawh thliar hmasak phawt a ngai thin. Chumi tihna atan chuan hmanraw tangkai tak a ni.

A tihdan:

- Mipuite chu kan thiltih tur leh a tangkaina (purpose) chiantak a hrilh tur a ni.
- Mipuite chu an khua in an mamawh emaw ngaih pawimawh zawng thil chi hrang hrangte sawikhawm tir a, lehkhah ziah chhuah tir tur a ni.
- Entirna atan; MGNREGA an hna thawh duh te chu Tui khuah, terrace, Inkalpawhna, afforestation leh Ran chaw thlai chin te lo ni ta se.
- A hnuai a table siam ang hian tual zawlah rin tur a ni a, table-a row leh column hmasa berah te chuan kan thil ngaih pawimawh ziah chhuahte chu kan rem tlar tir ang. Chung an thil ngaih pawimawh an remtlar theuh te chu row leh column ami te nen chuan kan khaikhin leh theuh anga chu thil pahnih kan khaikhin a ngaih pawimawh ni zawk zawk chu kan thil khaikhin te zawn box-ah khan kan ziak dawn a ni. Thil khaikhinna mark pek hi mipui lam atangin ban phar emaw a vote lak mai theih a ni ang.

Ngaih-pawimawh zawng	Tui Khuah	Huan kawng	Terrace	afforestation	Ran Chaw chin	Pawimawh dan (Mark)
Tui Khuah	x	Huan kawng	Tui Khuah	Tui Khuah	Tui Khuah	3
Huan kawng	x	x	Huan kawng	Huan kawng	Huan kawng	4
Terrace	x	x	x	Terrace	Terrace	2
afforestation	x	x	x	x	Afforestation	1
Ran Chaw chin	x	x	x	x	x	0

- A chung a an thil ngaih pawimawh kan khaikhinte mark hmuh kan en khian an ngaih pawimawh identified ho zingah Huan kawng chu an ngaih pawimawh in an mamawh ber a ni tih alang thei a, Ranchaw erawh chu an mamawh nêp ber kan ti thei ang. Sum indaih lohnaah chuan tih tel loh mai tur chi niin a lang. Hetih rual hian afforestation dinhmun pawh a pawimawh zingah a lang pha lo. A pawimawh ta lo tihna erawh niloin, kan identified zingah chuan a pawimawh nep ber te zingah a awm tihna mai a ni a, thil thar dang nena khaikhin chuan pawimawh tak pawh a ni thei tho a ni.
- Kan hna thlan chhuah chu lekhapuanah chiantaka ziahkai a, dahthat tur a ni.

Thil kan mamawh nia kan hriat thinte pawh hi chiang tak leh uluk taka kan han thlir nawn a, thil dang tulna nena khaikhin chuan tih hmasak tur a lo ni lo ve thei fo thin a ni. Chuvangin, khawtlang hmasawna tur hmalakna kan duan dawn pawhin kan fimkhur hle tur a ni a, mipuite rawn chung a an mamawh tak kan zawn chhuah hmasak hi a pawimawh em em a ni. Hei hi HNA thawh hmasak tur thlan chhuahna tan hmanraw pawimawh tak a ni.

Shelf of Projects: Hna thawh tur thlan chhuah

Kum tina kan hna thawh tur ruahmanna chu kan pawisa neih dan tur hre chungin kan ruahman tur a ni. Kan hna thlan chhuah takte – Huan Kawng, Tui Khuah, Terrace, Afforestation, etc atana kum 1 chhunga inhlawhna pawisa kan hmuh theih zat tur kha Rs. 22.77 lakh a ni tih hre rengin hna chu kan ruahman tawh ang.

Entirna atan,

1. HUAN KAWNG laih (2 km): Nikhatah mi 1-in meter 1 lai thei se; Km 1 lai turin tha 1000 a ngai ang. Km 2 lai tur chuan **tha 2000** a ngai tihna a ni. Tichuan, Zawlsei khuua tha **11,500** awm atangin tha 2000 chu Huan kawng laihna atan kan dah ang. A pawisa chuan Rs. $198 \times \text{tha } 2000 = \text{Rs. } 3,96,000.00$ kan dah ang. A dawt leh ah chuan Terrace laihna tur kan ruahman leh ang.
2. Terrrace hi laih (5 hectares): Hectare 1 laihna'n tha 150 ngai ta se; hectare 5 laihna tur chu **tha 750** (150x5) a lo ni ang. Hlawh kan chhut dawn chuan $150 \times 198 = \text{Rs. } 1,48,500.00$ a ni ang.
3. Zawlsei khuah Huan kawng leh Terrace laihna atan tha 2750 kan hman ral tawh chuan hna dang thawhna turin tha 8750 kan la nei dawn tihna a ni. Heta tanga thawh tur dang pawh a pwimawh dan indawtin kan ruahman vek tur a ni a; Pawisa kan dawn hmasak te chu hna pawimawh hmasa thawhna atan kan hmang tur a ni a. Kan dawn kim loh pawha thawh hmanhmawh thlak loh zawk chu a hnung lama thawh turin kan dah tur a ni ang.

A chung a kan tar lan ang khian hna thawh tur ruahman reng reng chu tha ngai Zat chhut chhuakin, kan khaw chhunga Job Card neiin kum khat chhunga kan inhlawhna tha tur awm zat a zirin kan siam rem tur a ni ang. Kan duh zawng zawng te vawi lehkhatah kan nei nghal vek thei dawn lova; a tahtawla thawh turin kan ruahman tur a ni ang.

Hna thawh hunah a hlawma thawh tir huk thin lovin, an thawk tawk tur siama, group hrang hranga bun tir thin tur a ni.

MATRIX RANKING/ SCORING METHOD: Matrix ranking hi Pair-wise ranking method nen khan thil inang lek lek a ni a, Pair-wise ranking-ah kha chuan thil kan identified-te kha a kawp (pair) te te in kan khaikhin a, Matrix ranking method ah erawh hi chuan kan thil identified-te kha tehkhawng kan siam hmangin kan teh ve thung ang a, chuta mark hmu hnem ber chu thlan chhuah tur a ni ve thung a ni. Matrix ranking method hi thlai chin tur thlanna atan te, ran vulh tur thlanna atan te hman tlanglawn tak a ni.

A tihdan:

- Kan thil hriatchian leh zirbing duh kha kan thlang fel hmasa tur a ni. Entirna atan; Zawlsei khuua MGNREGS hna thlan chhuah kan duh ta a.
- Mipuite chu kan thiltih tur leh a tangkaina (purpose) chiangtak a hrih tur a ni.

- An khaw chhunga hna thawh mamawh kan thlan chhuah tir anga, lehkhah kan ziah chhuah tir dawn a ni.
- An hna thlan chhuah te chu a tha ber an thlan chhuah theihna turin tehfung (criteria) hrang hrang kan duan pui bawk anga, chu chu lehkhah kan ziah kai leh bawk tur a ni.
- Pair-wise ranking tih ang bawk khan tualzawlah kan rin tir ang a, table-a tlar (row) hmasaberah chuan kan tehfung (criteria) ziah chhuahte chu bawm tinah kan dah tlar tir anga. Table-a chhuk zawng tlar (column) hmasaberah khan hna kan thlan chhuah te chu kan rem tlar thla ve thung ang. Tehkhawng tinah chuan thlai hrang hrang te chu mark kan pe theuh dawn a ni. Mark pek dan ah pawh hian 1 atang a 10 inkar hman nise, tin, mipui lam atangin an sawikhawm hnuah mark hi pek ni se.
- Table-a entir ang hian an thil ziah chhuah te chu column leh row-ah te hian kan rem tir anga an sawiho hnuah mark kan pe anga, hna tin te chu an mark hmuh kan belkhawm leh theuh dawn a ni.

Matrix Ranking Method

Tehfung Hna	Ei zawna kawnga tangkaina	Rotling a nih dan	Mi rethei tan a thatna	Environment tan a thatna	Total
Tui Khuah	5	8	6	6	25
Huan kawng	8	6	8	5	27
Terrace	7	5	6	6	24
afforestation	3	5	7	8	23

- Kan thawh tur thlan chhuah te khian tehfung hrang hranga mark an hmuh te belh khawmin; chuta point hmu sang ber chu kan hna thawh tur duh ber tihna a ni.
- A chung a kan hmuh ang khian Huan kawng chu tehkhawng hrang hrang a teh anih hnuah an khaw tan thawh hmasak tur ber a nih hmel a, Afforestation chu mark a hmu tlem ber rih a ni.

He PRA technique hman hian mipuite'n khaw tlang huap a hmalakna an neih dawnah te thutlukna dik tak an siam thei ang. Tehfung (Criteria) khi chu kan hna thawhna scheme thil tum azirin a hrang thei bawk ang. Hei hi entirna a ni a; tih danglam deuh theih a ni ang. Hetiang hman hian kan thil khaikhin duh apiang khaikhin theih a ni. Kan khaikhin tur azirin a tehfung kan siam khi chu dah rem mai tur a ni. MGNREGS hnuai hna thawh tur kan thlan dawng reng rengin PERMISSIBLE works a mi chauh chhawp chhuah tur a ni. Kan hna thawh tur reng reng te chu a point hmusang te thawh hmasak tur atan kan dah ang.

Ruahmanna (Plan) siam hi uluk hle tur a ni a, ruahmanna siam ber kan uluk loh chuan thawh phei chu uluk ngaihna a awm lo. Kan sawi tak ang khan mipui nawlpuiin an chhawp tangkai tur, an ei leh bar zawna kawng tihphuisuina tur an thlang chhuak ngei tur a ni. Mirethei leh harsa zawk khaichhuahna tur Scheme a ni tih hrerengin hma la ila. Kumtin October thla ral hma ngei hian 'Plan' hi khawtinah siam zawh tur a ni a. Uluk taka Plan kan

siam chu November thla tirah Block Office-ah thehluh tur a ni. Gram Sabha in kan pawm tlan tawh chu Agriculture related works –a 65% kan khung a, permissible works anih phawt chuan chunglamin an tidanglam thei tawh lo.

Tangkai leh hlawkthlak taka ruahmanna siam turin ngaihtuahna i seng tlang ang u.

Chapter – V

SOIL & WATER CONSERVATION WORKS

Contour Trenches: Ruahtui luang ral mai lova lei chhungril lama puh thlak tir turin tlang panga tlang dung kham zawnga lei laikhuar.



Contour bunds: Ruahtui luang ral mai lova lei chhungril lama puh thlak tir turin tlang pangah lei laikhuar kher lova lei chhun pawn.



Boulder checks: Lung dahkhawm, tuihawk emaw lui tui in a kawr kam vel a la hek nasa lutuk tur leh tui luang chak.



Gabion structures: Italian tawng 'gabbione' atanga lak niin chu chu "big cage" tihna a ni a, Lung leh wire hmanga tui lian in luikam a la hek zel tur venna a ni. Tui luang chak lutuk lo vengin lei nawi (Silt) a lo man khawm bawk a, a thlang lam zel lui/tuikhuaha leinawi lut tur a ven bakah Lei chhungah tui a lut a, tuihna a tipung a ni.



Stop Dam: Tui luang ral mai mai tur danna tur atana tuikhuah.

Earthen dams: Lei chhun pawn hmanga tuikhuah.



Springshed development: Tui hna awmna hmunah te tuikhur siam. Sikkim sorkar-in an State mamawh an thlen tih hlawhtlinna pakhat a ni a. Hemi hmanhian Himalayan region velah chuan MGNREGA hmanga hnathawh nasa takin a tipung dawn a ni. Spring (lei hnuai atanga tui lo chhuak) hi Sikkim mipuite inngahna ber a ni a, amaherawhchu tuihna a tlem zel avangin an Sorkar chuan Springshed Development Programme a duang a. An tum bulpui ber chu tui hnar in tui tam lehzual a pek chhuah theihna tur leh

heng tui hnar ten hun rei lehzual tuihna an neih theihna tura hmalak a ni. Tun hnai ah tui hna hnar ber ruah tui te leihnuai a an put luh tlem tak em avangin nasa taka tui hna a tlem ta a. Hemi avang hian "Dhara Vikas (Spring-shed Development)" tiin MGNREGA hnuai hmalak a ni ta a. An hmalakna tlangpui te chu tui hna awmna bulvel (catchment area) humhalh leh cheibawl te, tui luang ral tur ven nana contour hrang hrang siam te leh tui mamawh tam lo chi thingphun uar leh a dangte an ni.



Khawkheng tur ven, ramngaw siam leh thingphun.

Tui lak kawng siam (a lian lutuk lo leh a te).



SC/ST chhungkuate, land reforms chhawrtu (beneficiaries) te, Indira Awas Yajona tanpuina dawngtute, BPL chhungkua te leh marginal farmer te huan lo ramah tui lakna siam sakte, lei laih khuar a Farm pond

siamte, thing phun (plantation) leh thei/thlai/pangpar huan (horticulture) siamte, Farm bunding leh ram cheibawl that (land development) te a huam tel a ni.



Tuikhur hiah leh a awmsa hai fai.



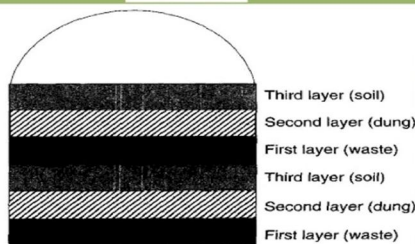
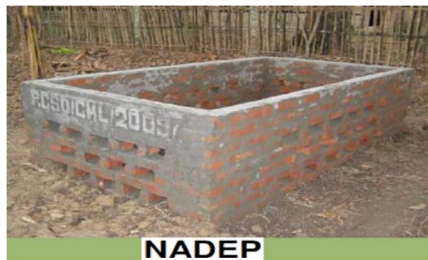
Thlai chinna atana ram cheibawl (land development).

NADEP Composting atanga leitha siamte, changpat atanga leitha siam (vermi-composting) te leh ran zun atanga leitha siam (liquid bio-manures) te a huam tel.

He leitha siam dan chi khat hi Gandhian Worker, Naryan Devrao Pandri Pandey a hmuhchhuah a ni a.

Brick in 10'x6'x3' a lian, a banga boruak tha taka a luh theihna tura kua awmin an sa a. He an bawm siam chhungah hian hnim hnah emaw thlai chhia te, lei leh bawng ek dah tur a ni a, 60-75% vela a hnawn reng theihna turin tui leih thin tur a ni. Lei 16-18qtls, thlai chhia 14-16qtls, Bawng ek 1-1.2qtls ang vel chawh pawlh tur a ni a, a chungah lei leh bawng ek chawh pawlh hmanga zut phui tur a ni. Ni 75-90 vel a in up hnuah a inchawh pawlh-ah chuan heng microbial culture -Azotobacter, Rhizobium leh phosphate solubilizing bacteria te hi pawlh tur a ni. Tichuan ni 110-120 velah kan leitha siam chu a hman theih tawh a ni. Vawikhat siam hian leitha 2.5-2-7 ton vela siam chhuak thei a, chu chu hectare khar ram chawm thei tur anga ngaih a ni.

SC/ST chhhungkuate, land reforms chhawrtu (beneficiaries) te, Indira Awas Yajona tanpuina dawngtute, BPL chhungkua te leh marginal farmer te tan



ar leh kel in siamte, chhuat zawl tha tak siamte, ran zun dah khawlna tur (urine tank) siamte, ran chaw dahna tur zem siamte a huam a ni.



Chapter – VI

SOIL CONSERVATION TECHNIQUE (Biological Measures)

Soil Erosion:

- Soil erosion awmzia chu lei chung lang thli leh ruahin a len bo hi a ni.
- Erosion a lo awma thil thleng pathum te chu -
Lei a hlawma awm kha a lo òil a, a chesawn a, hmun dangah a insawn òin.

Soil Erosion chi hnih te:

1. Water Erosion :

- i. Ruah far hian *splash erosion* a siam. Hei hi erosion level hniam ber a ni.
- ii. Tuihawk nasa takin lei chung lang hawrhin kua a hreuh a, leinawite len boin *erosion* nasa zawk a siam. Chung *erosion* te chu a hmingah *sheet, rill* leh *gully erosion* te phuah ani.
- iii. Tuilian nasain lui kama lei awmte a hrût chhe òin bawk.
- iv. *Erosion* class a nasa ber chu *Ravine* tia vuah a ni.

2. Wind Erosion:

- 1) Thli vanga lei chung lang tihsawna a awm òinna hmun langsar ber chu thlaler ramah a ni.
- 2) Lei òhil leh lei òha te chu awlsam taka tihchet theih an nih avangin thli nataka a tleh hian a chhem sawn òin a ni.

Erosion avanga harsatna te:

- Buh leh bâl thar chhuah a titem.
- Leia chakna awmte a tidal.
- Lei chhunga tui lût tur a tlem phah.
- Lei lehna senso a tisang.
- Lui tui lian a zual phah.
- Nungchate dam khawchhuahna tur a nghawng.
- Ram a tibua.
- Thlalêr a siam.

Soil Conservation:

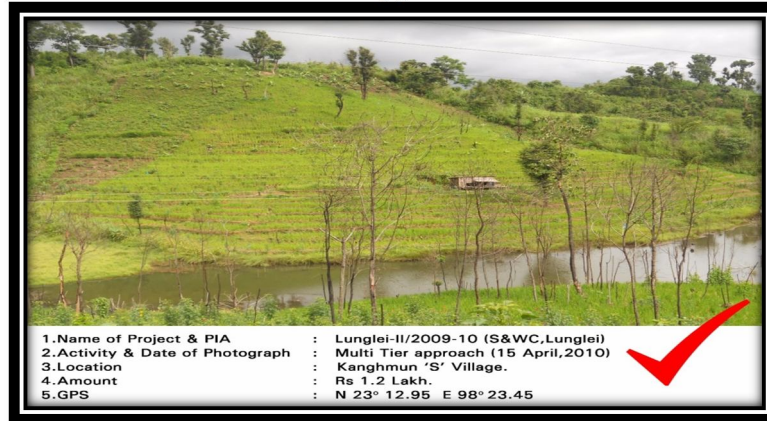
Soil conservation chu ruahmanna felfai tak hmanga lei chung lêng luangral turte, hman nasat avanga leiòhatna tlahniam leh leia chemical tam lutuk te, lei a thur/al insiam nasa lutuk tur te ven a ni.

A ven dân:

- Thli natna hmunah thli dal tura thingphun.
- Tlangramah terrace laih.
- Lei khuhtu awm lova dah loh tur, hnim òto tir reng tur.
- Ran tlat tam tir loh tur.
- Kan ram a tualòto hnim leh phairuangte luikamah zuah òin tur.

SOIL CONSERVATION METHODS	
BIOLOGICAL METHOD	MECHANICAL METHOD (Engineering measures)
1) Agronomic practices.	1) Erosion control measures.
2) Agrostological methods.	2) Drainage treatment measures
3) Dry farming practice	3) Water harvesting measures

Multi Tier approach of Land use:



AGRONOMIC PRACTICES:

Lo neih dan chi hrang hrang hmanga leilung humhalh leh hlawk zawka thlai thar theihna tura hmalakna hi *conservation farming* emaw *advanced agronomical methods* vuah a ni.

Agronomic practices hrang hrangte chu :

- 1) Contour farming.
- 2) Leileh dan dik leh hun eng emaw chen chhûnga thlai ching lova ram dah awl.
- 3) Crop rotation, be lam chi thlai chin leh mixed cropping.
- 4) Mulching.
- 5) Strip cropping

1) **Contour farming:** Tlangram awihtlanah te hman a ni a, heng hmunah te hian ruahtui leia lût a tlêm êm êm a, tuihawkah a luangral mai thîn. Tlâng/awihpang vâng tan zawng a leiletin, khuar leh chhûn pawns inkarthlâk contour line zulzuia siama thlai chin thîn a ni. Hei hian ruahtui luangral mai tur chu lo dangin leiah a luan luh tir a, ruahtui luang chak lutuk tur a lo dang thîn. Ram awihtlân vâng tan zâwna a kual a thlai chin hian lei luangral tur nasa takin a vêng a ni. Contour farming hian ruahtui luangral a titem a, lei luangral tur a veng bawk. Tin, buh leh bâl thar chhuah a tipung bawk a ni.

2) **Leileh dan dik leh thlai ching lova ram dah awl:** Lei hi thuk taka leh nge tha a pawnlawi taka leh tihah hian inhnialna a tam hle a. Mithiam tam tak chuan ruahtui tlemna hmunah chuan pawnlawi deuh a leileh hian thlai thar a hlawk zawkin, hnim a tlem phah a, leiin tui a hip hnem zawk an ti. Lei thuk taka leh hian lei a luan ral tir hma zawk a. Amaherawhchu, ruahtui tlâk tamna ramah chuan 15-30 cm-a thuka leileh hianin hnim to a titem a, thlai thar a hlawk zawk a ni. Thlai ching lova hun eng emaw chen ram dah awl a, chulai hmuna ran an tlat hian hun eng emaw ti hnuah lei a lo tha leh thîn. He thil hi ruahmanna tha tak a nih rualin mihring tamna India ram angah te hi chuan a hman theih loh a, mihring tamna ram kan nih avang hian chaw mamawhna a sâng em em a, thlai ching lova ram dah awl mai mai chu kan tlin rih lo a ni.

3) **Crop rotation, be lam chi thlai chin:**

➤ Thlai chikhat chauh hmunkhata kumtin kan chin hian kha leilung khan mineral eng emaw ber tlakchham a lo nei thin. Fertilizer te nen enkawl mah ila a titha zo tawh lova, a tawpah chuan *erosion* a thleng mai thin. Thlai chin thlak kual hian lei chhe tur a veng a, thlai thar chhuah a hlawk baw. Kumhnih danah chuan lo a thlai chinte hi a chi thlak thin tur a ni.

➤ Thlai chi kan thlak kual dawna kan ngaihtuah hmasak turte chu – sik leh sa, sum leh pai dinhmun, leilung pianhmang, ram awih zâwng leh leilung luanral dan te a ni. Leia zung kaih thuk chi thlaite dawtah zungkaih thuk lo chi thlai a thlak tur a ni.

➤ Be lam chi thlai ho hian leia nitrogen siamna kawngah tha an thawh hlawk hle a. An zunga bacteria hrik awmte hian boruak a *nitrogen* awm chu *nitrogenous compounds*-ah a siam a, chungte chu *nitrites*, *nitrites*, *ammonium salts*, *amino acids* leh *protein* te an ni. Heng *nitrogenous compound* te hi thlai a lo thiha a tawih khan leiah luang lutin lei thaah a chang mai thin. Chuvang chuan be lam chi thlai kan chinte hian lei nasa takin an titha thin a ni.

Mixed Cropping:

Thlai thar chhuah hlawk zâwkna tur a chin dân pawimawh tak pakhat a ni. Hetiang hmanga lo neihnaah hian thlai chin bik pakhat a awm a, chu thlai karah chuan thlai dang pahnih khat an ching tel thin. Hetianga lo neih dan hian lei chhe tur leh luang ral tur a veng a, natna vâng emaw thil dang vâng emawa thlai chin pakhat kha a hlawhtlin loh palh pawhin thlai chi dang kan chinte aţang khan hlawkna t l tur a la awm thei a ni.

4) **Mulching:**

Buhp wl emaw hnim hnah emaw plastic emawa lei khuh hi *mulching* chu a ni. Mizo  wng chuan ‘chhawlechhin’ tih a ni. Soil erosion a v ng a, lei a titha a, lei a hn wng awm rei tak a vawngchim baw thin. Tin, leia tui lut a titam a, hnim  o tur a dipdal baw. *Mulching* tihna at n hian kan hmanna hmuna awm remchang apiang hman mai tur a ni.

5) **Strip Cropping:**

Lei leh hnawng humhalhna kawng a loneih dan tha tak mai ani. Erosion siamtu thlai leh erosion vengtu thlai te chu inkarthlak in ram awih lutuk lovah an ching thin.

Strip cropping hi chi 4 a awm a –

- i) contour strip cropping,
- ii) field strip cropping,
- iii) wind strip cropping,
- iv) buffer strip cropping

6) **AGROSTOLOGICAL METHOD:**

- 1) Cultivation of grasses (ley farming)
- 2) Retiring the land
- 3) Afforestation and Reforestation
- 4) Checking of overgrazing

7) **AFFORESTATION AND REFORESTATION:**

Chhan hrang hrang avanga ramng w awm lohna hmuna ramngaw siam hi *Afforestation* chu ani. Ram k ng nasa avang te, thing kih nasat avang te a ramngaw chereu siam  atna at na thing phun hi *Reforestation* a ni.

Ramngaw siam thatna at na tih tur pawimawh te chu:

- i. Ram kang ven.
- ii. Ramngaw zauh belh.
- iii. Ramhnuai a ran tlat dan khuahkhirh.
- iv. Thingkih nasat lutuk tur ven.
- v. Reserve forest siam.

DRY FARMING:

Ruahtui tla tlêm, ruahtur mumal lo leh khawkhêna hmunah te dry farming hi kalpui a ni. Hetiang hmunah te hian ruahtui tla chhun te a tam thei ang ber leia a luh theihna turin hma lak a ni. Thlai chin turte pawh tui mamawh tlêm leh khawkhêng ngam turte thlan an ni ðhin. Thlai puitling hma chi te chin an ni ðhin.

India ram a dry farming kalpuina hmun te chu:

- 1) Punjab,
- 2) Rajasthan,
- 3) South-west U.P, north-west M.P,
- 4) Maharashtra, Mysore, Andra Pradesh leh Tamil Nadu hmun thenkhat te.

Chapter – VII

SOIL CONSERVATION TECHNIQUES - II

Engineering measures hi *vegetative measures* ringawt hmanga lei luang ral tur venna hna a thawh theih loh hunah hman thin ani. Lei luang ral nasat lutukna hmuna *engineering measures* hman a nih hian thlai leh hnim te an lo to a; an lo punna turin a pui nasa hle thin. *Engineering* leh *biological measures* te hi inchawm tawn a, zaikhat a luang za tura uluk taka duan tur a ni.

Engineering measures tangkaina te :

- 1) leilung tân mechanical protection a pe.
- 2) lei luangral tur leh lei da tur a vêng.
- 3) thlai te tha taka an to theihna turin lei tha leh hnawng a humhalh.
- 4) lei a tui lut a tihtam avangin *ground water level* a tisâng.

Engineering measures:

Hlawm thuma then a ni-

- i) Erosion control measures,
- ii) Drainage line treatment measures,
- iii) Water harvesting measures.

Erosion control measures:

- Bunding,
- Bench terracing,
- Puertorican type terraces,
- Trenching,
- Conservation bench terrace,
- Zingg terracing,
- Stone wall

Bunding:

Bunding hi ruahtui tlâk tlemna hmuna lei luang ral tur venna tha tak a ni a, a tlângpuiin slope 8% vèl thlengah hman thin a ni.

Bunding hi chi 2 a awm a –

- 1) *Contour bunding*: slope \hat{u} 6%, Rainfall \hat{u} 800 mm leh lei thawl ah hman a ni.
- 2) *Graded bunding*: slope \hat{u} 6%, Rainfall \hat{e} 800 mm leh lei mukna hmunah siam a ni thin.

Bench Terracing:

Hmun awiha thlai chin dawn chuan bench terracing hi hman thin a ni a; ram awih lutuk tirem tura step siam a ni deuh ber mai. Slope upto 33% atân recommend a ni.

Bench terracing hi chi 4 ah then ani :

- i) **Level terraces** : Leilet bial kan tih hi a ni. Soil depth – medium to deep, rainfall \hat{u} 2500-3000 mm (high rainfall). Buh chinna atân hman ber a ni. Slope \hat{u} 33%.
- ii) **Inward sloping terrace** :Ruah tui luan chhuah zung zungna tura leilet chhông lam tlêma tih awih luh deuh a ni. Soil depth –medium to deep, rainfall – high. Alu, thlai rah chi, vaimim etc te chinna atân hman a ni. Slope \hat{u} 33%.
- iii) **Outward sloping terrace**: leilet pawns lama tlêma awih deuha laih hi a ni. Lei thuk lo leh ruah tui tlêm \hat{u} 1200 mm hmunah te siam a ni. Millets , oats, barley etc. te chin thin a ni. Slope \hat{u} 33%.
- iv) **Puertorican type terrace** : Lei lai chhe si lova terrace siam dan a ni. Contour line zûl zuiin grass phun a ni a; grass leh grass inkarah hmun awl zuahin, chutah chuan thlai chin a ni. Lei tihchet ho kha a sira grass-a hungah khan zawi zawiin a lo tling khawm a, kum 3-4 hnuah chuan terrace-ah a lo chhuak mai thin. Slope \hat{u} 12%, soil depth – medium to deep, Rainfall \hat{u} 1500 mm.

Trenching:

Ruahtui luangral tur dâl nan leh lei luangral tur lo khawlna atâna khur laih a ni.

(a) **Contour trenching** : contour line zuia khur laih. Kar âwl awm lova khur laih (inzawm) hi continuous trench tih a ni. Slope $\hat{u}8\%$, soil depth – medium to deep, rainfall $\hat{u}1500$ mm. 2-4 m-a seia khur laih a , a kar awl siam zel hi **staggered contour** trench tih a ni. Slope $\hat{u}8\%$, soil depth – shallow, irrigated, rainfall - $\hat{u}800$ mm. Slope $\hat{u}33$, soil depth – medium to deep but well drained, rainfall - $\hat{u}2000$ mm.

(b) **Graded trenching** : Contour line zulzui lova khur laih hi graded trenching chu a ni. Slope $\hat{u}33\%$, soil depth – medium to deep but well drained, rainfall – 2000-3000 mm.

Tea, coffee, arecanut, coconut, black pepper, nutmeg, cinnamon, papaya, banana etc. te an ching thin.

Drainage Line Treatment:

Tuihawk luan kawr, luitui luan kawng, thlai chinna ram leh thlai chin theih lohna ram ami te hi drainage line chu a ni. Heng tui luan kawrah te hian tuihawk leh hnâwl a luang thin a, chung ho luang chak lutuk tur lo dang tura ruahmanna siam hi *drainage line treatment* chu ani. *Drainage line treatment* hmang hian lei chung lang luang ral tur leh lei hnawng riral mai tur chu ven niin, thlai chinna atâna ram tha a siam bawk. Tin, luikama drainage line treatment kan siam hian luikam hawrh chhe tur a vêng bawk.

Measures:

Drainage line treatment lak hma hian uluk taka survey leh planning tih tur a ni. Lui luang chak dan te, lui kuang zau zawng te, lui thûk zawng te, a ram awih dan te zirchian phawt tur a ni.

☉ **CHECK DAMS** : Tui luang chak lutuk tur lo dang tur leh hnawl lo dawl tura siam a ni.

☉ **Temporary check dam**: Awlsam taka hmanraw hmuh theih hmanga siam tur a ni. Eg : live vegetation, brushwood, logwood, loose stone, etc. A san zâwng hi 0.75m aia sang lo tur a ni. A sir kil te aiin a lai a hniam tur a ni a; hmanraw hman a zirin a that chung hian kum 3-5 a awh a ni. Kawrteah *temporary check* dam hi siam thin a ni.

☉ **Semi-permanent structures**: Hetiang structure hi kawr ruam, tlângram awih deuhah siam thin a ni. Gabion(lung fun) hi hman tlânglâwn ber a ni a, kum 20-25 thleng tha tura ngaih a ni.

☉ **Permanent Gully control structures**: Heng structure te hi brick hmangte, gabion hmang te, RCC te, earthen plugs/dams concrete/steel pipe hmanga siam an ni tlangpui. Kawr ruam zau tak leh tuihawk tamna leh hnawl tamna hmunah siam thin a ni. Hetiang structure that hun chhûng hi kum 25-50 inkarah chhût a ni.

Gabion Check Dams:

Gabion check dam hi hnâwl leh lei lo dâl tura lui laiah leh lui mawng lamah siam thin a ni. Gabion structure hi thirlên (3.15mm- a chhah) hmanga bawm siama, a chhunga lung fûn a ni. Thir bâwm size hi 3 m x 1 m x 1 m a ni tlangpui a; a chhin size hi lung len zawng a zirin 10-20 cm a ni thin.

Gabion structure thatnate :

- i) tliak lovin an ulhkual vak theih,
- ii) tui a lut tlang thei
- iii) a ngialnghet
- iv) a senso a tlem.

Water Harvesting:

A tum ber chu tui dah khawl a, mamawhna hrang hrang atâna hman a ni. *Water harvesting structure* hi chi 3 ah then a ni -

- 1) Dug out or excavated farm ponds,
- 2) Small earthen embankments,
- 3) Embankment cum dugout type ponds.

Rain Water harvesting Structures:

Humid high rainfall north eastern zone:

Status of the art:

- i) Roof water harvesting
- ii) Diversion of perennial springs and streams in a storage structure(tank)
- iii) Bamboo drip irrigation system
- iv) Water harvesting from hill slopes.

Recommendations :

- i) multiple use of harvested water e.g. Fisheries
- ii) improvement in water harvesting system
- iii) popularisation of bamboo water conveyance system.

CHAPTER - VIII

ENGINEERING MEASURES

1. ANICUT:

Dam chikhat, lui luanglai emaw kawrte, irrigation atan emaw tui khawlina atan khuah ang hi a ni.

A lema tarlan ang hian Parmanent structure hmangin, RCC emaw lungrem hmang a siam thin a ni.



Fig.1

Anicut construction

A tangkaina te:

- Lei luang ral tur vengtu a ni.
- Tui luang ral chak lutuk tur lo ti muang a, hun rei zawk hman theih tur a chhawp chhuah nan.
- Lei hnuai tui ti tam tu a ni a, a chheh vel thlai leh thing tan hnawng siam tu a ni.
- Lei hnawna vawng rei tura pui tu a ni.
- Thal lai a huan thlai chawmtu a tan a tang kai.
- Intur atan tui khuah emaw agriculture atan a tui khuah chi khat a ni.
- Tui lakna tui hnar ti chak tu atan leh tui hna ti pung tura pui tu a ni.

Siamna hmun tur uluk taka thlan tur a ni:

- Tui hnar tha, kang chat mai lo tur thlan hram tur a ni.
- Tui khuah na hmun chu a zawl thei ang ber thlan hram tur a ni.
- Tui khuahna structure dahna hmun chu tui khawlina hmun zau leh dawng hlawk tak mahse tui luanna kuang zim lai ber ni thei se. a zau lai a khuah a nih chuan structure man a to hma mai bakah a tlo theilo a ni.
- Tui khuahna structure thut phah (foundation) chu leinghet tha tak emaw lung chhuat(Rock bed) ni thei se.
- A siamna hmanrua awlsam taka lak khawm theihna hmun ni thei se.



Fig.2

Figure 2 hi kan en chuan a hmun thlan thuah/site selection an fimkhur lo hle tih kan hmu thei ang. A chhan chu, an siamna hmun hian tui khawlina hmun a nei tlem hle a, storage capacity a tlem phah hle a structure hi a economic lo a, a tum a theh a tih theih awm e.

A nih phung/Specification:

- **Foundation:** A structure innghahna, a thut phah, structure pum innghahna leh ti nghettu a ni a, lei char tha tak emaw lungchhuat a thlen hma loh chuan laih mai tur a ni.
- **Main wall:** Hei hi tui luang lai khuap tu ber a vang zawnga tan tlang tu structure hi a ni a, Upstream/ lui hnar lam hi a ding ngil a, Down Stream/ luimawng lam hawi hi a side slope hi 1:1 slope a siam tur a ni.
- **Wing wall/Side wall:** Structure lui dung zuia siam hi a ni a, hei hian lui kam lei tuiin a ei ral loh nan a veng tu a ni.
- **Baffle wall:** Structure, Main wall atanga meter 1-2 a hla ah main wall parallel in 0.3m – 0.45m a sang in siam a ni a, hei hian lui mawng lam a tui luang chhuak chak lutuk kha a lo ti muang in lei luangral tur nasa takin a veng a ni.
- **Apron:** Hei hi Main wall leh baffle wall inkar hmun awl lai hi a ni.

Measurement and Estimation:

He hna atana measurement lak ngai te chu:

- Lei laih hna (earthwork) foundation a tan.
- Tui khuah tur san zawng/thuk zawng(Height of Main wall)
- Tui khuah sei zawng (Length of Main wall)
- Top width of Main wall/a chung zawl
- A mawng hlai zawng/bottom width.
- Side wall sei zawng/length of side wall.
- Side wall san zawng/ height of side wall
- Side wall chhah zawng/thickness of side wall.
- Baffle wall seizawng, san zawng, chhah zawng.
- Apron sei zawng, Zau zawng leh chhah zawng.

Estimation:

Estimates kan siam dawn a kan hriatreng tur chu, a chung a kan han tarlan tak measurement lak ngai te hi uluk takin kan la tur a ni a, chumi hnuah estimate chu uluk taka siam tur a ni. Estimate kan siam dawn reng reng in kan Schedule of Rates hman turah kan chiang hle tur a ni a, tun hma chuan MGNREGS hna atan hian PWD SOR hman thin a ni a, amaherawh chu hemi hman a nih hian kan scheme nen hian a inmil tawh lohna lai hi a awm fo mai a, chuvang chuan Rural SoR hi buatsaih mek zel a ni a, chu Rural SoR ah chuan a hnuai a estimates template kan han tarlan ang hi hman a rem chang thei dawn niin a lang ta a ni. He entirna danglamna chu, Wages/unskilled atan a pawisa ngaizat leh Material component atan pawisa ngaizat hi kan chhut chhuak nghal thei tawh dawn a ni. Wage:material ratio pawh awlsam takin a chhut chhuah theih dawn bawh a ni. ****Hemi atanga thil lo lang chiang em em ta chu, wages leh material component hi thil inzawm tlat kal hrang reng reng lo tur a ni tihna a ni a, chumi awmzia chu material component hi a hrang daiha thawh emaw hmun dangah emaw, hnadang ang a va thawh daih chi a nilo hulhual tihna a nih chu****

Sample of Estimation:

S I. N o	S O R No	Descri ption	N o	L	W	H	Qt y	Un it	Rate Rs		Amount Rs		Total Amo unt
									wag e	mater ial	Wage Un- skilled	Mate- rial comp	
1		Earthw ork											
		Founda tion main wall	1	4. 2	0.8	1	3.3 6	cu m	153. 2		514.7 5		514.7 5
		Founda tion side wall	2	3. 5	0.5	1	3.5	cu m	153. 2		536.2		536.2
2		PCC work											
		Founda tion main wall	1	4. 2	0.8	0.1	0.3 4	cu m	688	6192	233.9 2	2105 .28	2339. 2
		Founda tion side wall	2	3. 5	0.5	0.1	0.3 5	cu m	688	6192	240.8	2167. 2	2408
		Apron &Baffle wall base	1	4. 2	2	0.1	0.8 4	cu m	688	6192	577.9 2	5201 .28	5779. 2
3		Stone Masonr y											
		main wall	1	4. 2	0.6 3	1.2	3.1 7	cu m	580. 24	5680	1839. 36	1800 5.6	1984 4.96
		Side wall	2	3. 5	0.4 5	1.4 5	4.5 6	cu m	580. 24	5680	2645. 89	2590 0.8	2854 6.69
		Baffle wall	1	4 .8	0. 35	0. 35	0. 58	cu m	580. 24	5680	336. 53	329 4.4	3630 .93
										Total	6588. 84	5338 0.16	5996 9
									Add 3% water coolie,palna coolie		197.6 6	1601 .4	1799. 06
												Net total	6176 8.06
									Wage: ratio 11:89	Material	11%	89%	

Note : Estimate hi entirna atan ruahman a ni a, Rural SoR ala chhuah loh avangin hetiang hian han entir a ni a, SoR hman hunah pawh hetiang zul hian siam nise kan hanthawh te pawh a fel fai deuh ngei ang le.

Wage: Material ratio kan tar lan kher na chhan pawh hi hna thlan kan thiam theihna tur atan a ruahman a ni a, 60:40 maintain thei tura rauhmanna siam a awl zawk nan a ni.

Entirna:

Kan khua a hna thlan te chu estimates a nih hnuah heng te hi wage:material ratio a ni a,

Sl.No	Items (hna hming)	Wage Ratio	Material comp. Ratio
1	Anicut	11	89
2	Terrace	100	0
3	Cattle shed	20	80
4	Poultry shed	18	78
5	Nadep compost pit	20	80
	Overall average Ratio	34	66

Wage : material ratio : 34:66

Result: 60:40 chu kan maintain lo tihna alo ni a,

Hemi in a entir chu, hna kan thlan hi material component sang tak an nih hlawm chuan 60:40 hi kan maintain thei dawn lo tihna a ni a, hna wages pe chhuak tam thei tur thlan thiam a ngai hle dawn tihna a ni.

2. BOULDER CHECK:

Lung hmanga tui luang lai, kawrte wmaw lui tenau deuh, tui luang chak lutuk lo ti muang a, lo khawl thei tura khuah hi a ni ber awm e.

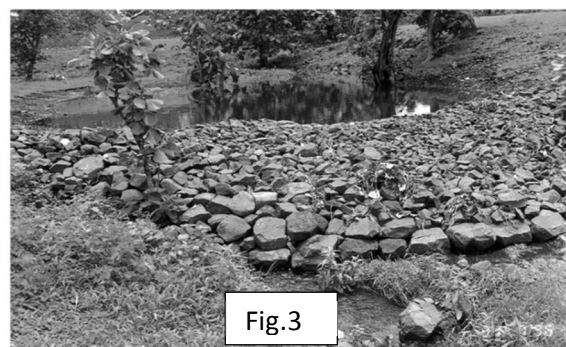


Fig.3

A tangkaina :

- Lei luang ral tur vengtu a ni.
- Tui luang ral chak lutuk tur lo ti muang a, hun rei zawk hman theih tur a chhawp chhuah nan.
- Lei hnuai tui ti tam tu a ni a, a chheh vel thlai leh thing tan hnawng siam tu a ni.
- Lei hnawna vawng rei tura pui tu a ni.
- Thal lai a huan thlai chawmtu a tan a tang kai.
- Tui luan hun chung a ti rei a, hei hian lui mawng lama tui khuah hna a ti chakin rei zawk hman theih turin a awm theih phah thin a ni.

Siamna hmun tur:

- Boulder check pakhat tui dawn khawlna area (catchment area) chu 1 to 2 ha aiin zau lo se.
- Boulder check reng reng tui luanna chhuat slope 20% ai sangah siam loh tur a ni. Hemi ai a awih ah chuan Tui luang chaktak kha boulder check hian a dawl zo dawn lo a ni.
- Boulder check hi a siamna hmanrua lung awmtamna hmun emaw, lak mai awlsamna hmunah siam hram tur a ni. Hmanrua lakkhawm harsa tak leh material cost sang turah chuan siam loh hram a tha.
- Tui khawl tura beisei chu nilo mahse tui tlin khawl tam theihna hmunah emaw tui engemaw chen khawl thei tur a siam chu duhthusam a ni.

Layout/ Specification:

- Boulder check pahnih insanhleihna (Vertical interval VI) chu boulder check chungzawk thutphah/a mawng leh boulder check hnuai zawk chung/a ko (top width) in rual chiah vel hi a tawk tlang pui a ni.
- Boulder check pahnih inkar hlat zawng (Horizontal Distance HI) chu hmun awih dan a zir a ni anga, a formula chu:

$$HI = \frac{VI \times 100}{\text{Slope}}$$

- Hmun awih deuh ah chuan Boulder check te chu inhnaih deuhah dah tur a ni a, mahse 10m aiin inhnaih lo se.
- Hmun awih dan nep deuhah chuan inhlat deuh a siam nise, mahse 50m aiin inhlat lo se.

Entirna:

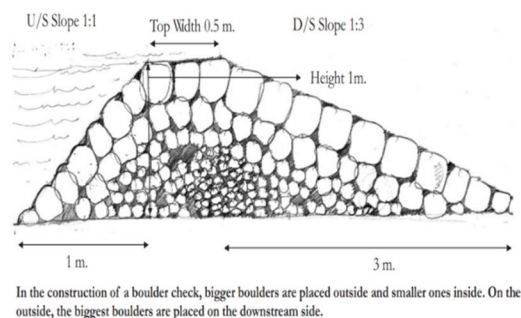
Lui te pakhat 1500m a sei, a hmun awih dan slope chu 10% a ni a, 1 metre a sang boulder check hi engzatnge siam theih ang?

Soln: hmun awih dn chu : Slope 10%
Boulder check height : 1m

$$HI = \frac{VI \times 100}{\text{Slope}}$$

$$HI = \frac{1 \times 100}{10} = 10$$

Hemi awm zia chu metre 10 dan zelah boulder check hi siam tur tihna ani a, amaherawh chu, boulder check pakhat hian meter 5 zel hmun a luah dawn a chuvangin HI = 10+5=15m



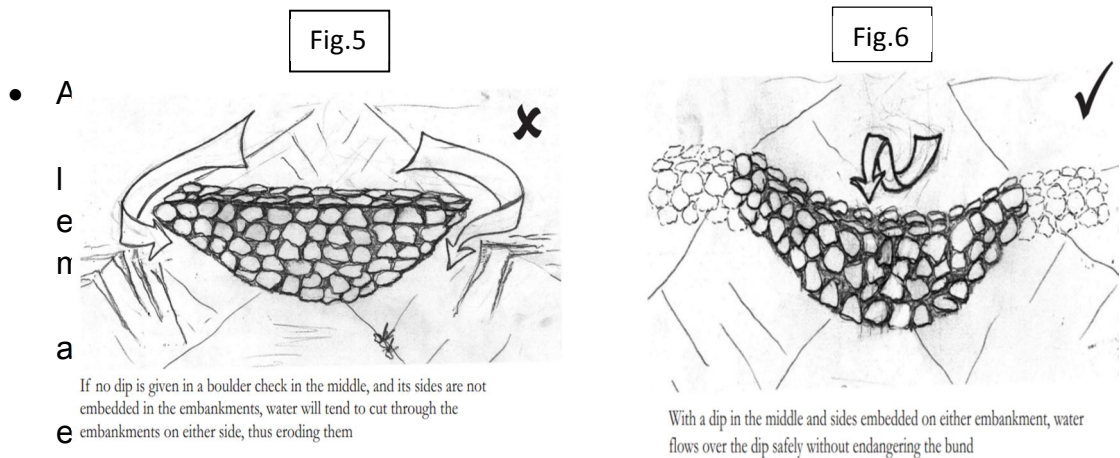
In the construction of a boulder check, bigger boulders are placed outside and smaller ones inside. On the outside, the biggest boulders are placed on the downstream side.

Fig. 4

Boulder check siam theih zat chu : 1500/15 =100 Boulder checks

- Boulder check hi a talangpuiin meter 1 a sang/thuk a siam hi a ni ber thin. A chung zawl (top width) hi 0.4m – 0.5m hman a ni tlangpui bawk.

- A bang lui hnar lam hawi Upstream face slope hi 1:1 a ni a, a bang lui mawng lam hawi (downstream face) hi 1:2 – 1:4 hman a ni a, tui tam dan leh tui luan chak dan a zirin hman tawk thlan tur a ni.



ntir ang hian boulder check kan siam

chu figure 4 ang hian nise, fig. 5 hi kan hmu anga hei hi a diklo a, a chhan chu tui hian a luanna kuang a zauh thei dawn a ni, fig.6 ah hi chuan tui kha a laiah chhuah a lo ni a hei hian lui kam lei luang ral tur nasa takin a veng dawn a ni. Tin, kan hmuh ang hian lung remkhawm danah pawh hian awmze nei thlap a rem a ni a, lui hnar lam hnaih leh a chhungril ah hian lung te deuh dah a ni a, a pawnlawi deuh leh lui mawng lam hawi ah hian lung lian that ha dah thin a ni. Hei hi a chhan chu tui force khan lung a len bo mail oh nan leh structure a ngheh zawk nan a ni.

3. CONTOUR TRENCHES

a) Continous contour trench:

A thil tum te:

- Tui luang chak lutuk ti muang tu
- Lei luangral tur eng tu
- Lei hnawna ti rei tura pui tu

A awmna hmun:

- Hmun 25% ai a awih ah chuan siam loh a tha. Hetiang ai a awih ah chuan thing phun, hnimhnah to tir emaw thing buk te phun hi lei luangral tur venna atan chuan a tha ber a ni.
- Hmun 10% ai a awih lo ah chuan contour trench siam hi a tul hran lo a, hetiang hmunah chuan contour bunding siam hian awmzia a nei thui zawk a ni.
- Contour trench chu hmun awih 10% atanga 25% slope ah hian siam a tha ber a ni. Contour trench siam tur chuan a chung a tarlan tak te hi hriat reng tur a ni.

Contour trench inkar hlat zawng(Spacing):

- Contour trench pahnih insan hleih na chu meter khat(1m) a ni. Hemi a nih avang hian 5% slope ah chuan contour trench inkar chu 20m a ni dawn tihna a ni. Chutiang zelin 10% slope ah huan 20m a lo ni dawn tihna a ni.
- Hmun awih zual lai ah huan contour trench te chu an in hlat turn a ni lo a, amaherawh chu 10m aiin an in hnaih tur a ni lo.
- Hmun awih vak lo ah chuan trench te chu inhlat deuhah an awm tur a ni a, amaherawh chu 30m aiin an inhlat tur a ni lo.

Contour trench design:

- Contour trench chu meter chanve a zau, meter chanve a thuk a laih a ni tlangpui thin a ni.
- A thuk lam: 50cm
- A zau lam: 50cm
- Berm: Lei laih chhuah sa chu khur atang 20cm a hla-ah khur thlanglamah paih thin ani. He hmunawl(gap) khur leh leivung inkar hi Berm tia hriat a ni a, hei hian khur chhungah leivung kha a tlak luh leh mai lohna tura veng tu a ni.

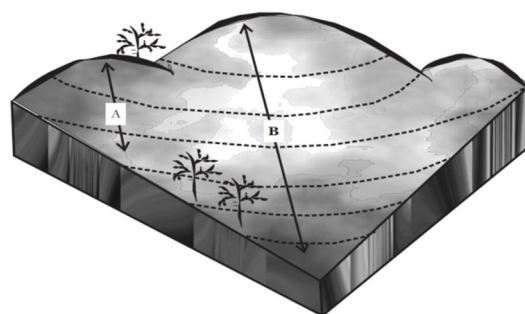
Contour trench ruahman dan(layout):

- Hmun awih dan (slope) chu mual pawng lai atang hmun hran hran ah the chhuah tur a ni.
- Hmun awih dan slope 10%-25% te chu chin chhiah la, contour trench ruahmanna siam tur a ni.
- Mual dung sei theihna lai ber hmun chu chhinchhiah a, chumi atang chuan contour trench chu tan tur a ni.

A lem (Figure 9) a entir ang hian, contour trench chu section A meter 30 a sei atang a kan tan chuan trench inkar 15m kan hman bawk chuan row hnih chauh kan siam thei dawn tihna a lo ni. Amaherawh chu section B meter 90 a sei atang a kan tan ve thung erawh chuan row ruk lai mai kan siam thei dawn zawk a lo ni reng bawk a ni. Hemi avang hian contour trench chu mual dung sei lai ber atang a tan chu a fuh ber dawn tihna a ni. Hmun awih dan a zirin trench te pawh an inhnaih a trul chang te inhlat a tul chang te a hmalama limit kan tarlan tawh ang kha erawh kan hriat reng a tul dawn a ni.



Figure 7: Contour Trench



b) Staggered Contour trench:



Figure 8: Stagered Contour Trench

Staggered contour trench te chu contour line vawn dik a awl zawk avangin a him zawk a ngaih a ni. A lem a entir ang hian khur chu meter 4 a sei metre chanve a zau meter chanve a thuk in line khatah laih a ni a, a hnuai a khur laih chu a chung karawl zawn chiah ah laih tur a ni. Hei hian tui a khawl kawngah tui hlauh (loss) a nei tlem dawn a ni.

4. EARTHEN CONTOUR BUNDS:

A thil tum te (objective):

- Tui luang chak lutuk ti muang turin.
- Lei chung lang luangral tur veng turin.
- Lei hnawna vawngrei turin.

A awmna hmun tur(location):

- Slope 10% ai sang ah chuan siam loh tur a ni. A chhan chu tui luang a chak avangin bund chu awlsam takin a chhe mai dawn a ni.
- Slope 10% chin leh a hnuai lamah siam a tha ber a, contour bund ah chuan tui hi khur chhung chauhin dawng loin bunding pawh hian a lo dawn tho avangin hmun awih ah chuan a tih chi loh a ni.

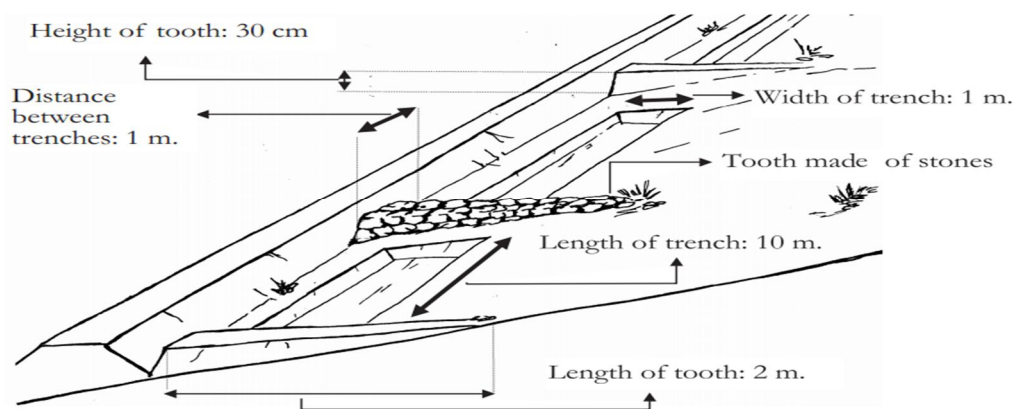
Contour bund inhlal zawng:

- Meter khat hi a insan hleihna a ni tur a ni. Chumi awmzia chu 10% slope ah chuan contour bund inhlal zawng chu 10m tihna a ni.
- Hmun awih deuh ah chuan bund te chu an inhnaih tur a ni a, mahse 30m aiin an in hnaih tur a nilo.
- Hmun aih vak lo ah chuan bund te chu an inhat tur a ni a, mahse 60m aiin an inhlal tur a ni lo.

Design:

- A san lam: 60cm
- A tlakhniam theih chin: 20-25%

- Hemi a nih chuan bund san lam chu: $60 \times 1.25 = 75\text{cm}$ a ni dawn tihna a ni. Lei thil leh lung deuh hmun ah chuan a tlakhniam theih chin hi 10% vel tur a ni.
- Top width a chung zawl zua zawng: 20-30cm
- Bund chhunglam/chhaklam slope (Upstream Slope): 1:1
- Bund pawnlam/thlanglam slope (Downstream slope): 1:1.5. lei thil leh lung deuh ah chuan 0.75:1 a hman theih a ni.
- Tui chhuahna(exit): Tui luanchhuahna chu leichhuat ai sangah siam tur a ni a, tui te chu hun reilo te tling lai lawk tur a duan a nih hnuah a chuang liam chu exit ah an luang chhuak mai dawn a ni. Hemi vang hian exit chu uluk taka siam angai a, lung chhuat emaw tuiin a tih chhiat mai theih loh tur a siam tur a ni.
- Lei laih: Lei laih chu inzawm put a laih tur a ni lo a, a chhan chu kawr ang main tui kalna kha a awm theih vang a ni. Hei hian lei nasa takin lei a ti kal ral ve thei tlat a ni. Khur kan laih te chu inzawm loin meter chanve dan velah laiin lei laih chhuah te chu bunding siam nan hman tur a ni. Khur (trench) chu meter khat a zau hi a tawk thei mai a ni. Khur leh khu inkar chu tooth tia vuah a ni a, a lema entir ang hian a sei zawng chu meter hnih vel leh a san zawng chu 30cm niin lung hmanga siam tur a ni.
- Berm: khur leh leivung inkar hi Berm tih a ni. Berm hian hurrah leivung tla lut leh mai tur a veng a ni.



- Hnim hnah to tir hmanga bund venhim: Bund lei luangral mai tur ven nan hnimhnah to tire maw phun hi a tha hle a ni.

**Figure 9:
Earthen
contour
bund.**



5. EARTHEN DAM

Site selection and preliminary investigations:

Tui khawl a tam zawk theih nan lui pakhat ai tam infinkhawmna hmun ni thei se.

- Tui pump chawp ngailo, gravity flow hmanga huan leh thlai tui pek theihna hmunah siam ni thei se.
- Tui khuahna hmun chu lui kuang zimna lai ni si, tui khawl tam thei tur a hmun tha tak ni se la, lei hmanga khuahna chu a tawi thei ang ber a ni dawn a ni. Fig. 11 a entir ang hian.
- Foundation atan a lei char tha awmna hmun, lung chhuat awmna hmun ni thei se.

Catchment yield (Tui luangkawm tur zat hriat dan):

- Kum khat chungga ruahtui tla 10% (R_r) hi chhut nan hman tur a ni.
- Dam in tui a dawn khawlna hmun(Catchment area) (A) chu Km^2 in chhnut tur a ni.
- Y hi catchment yield a ni a, cubic metre a chhut a ni..
 $Y = R_r \times A \times 1000$

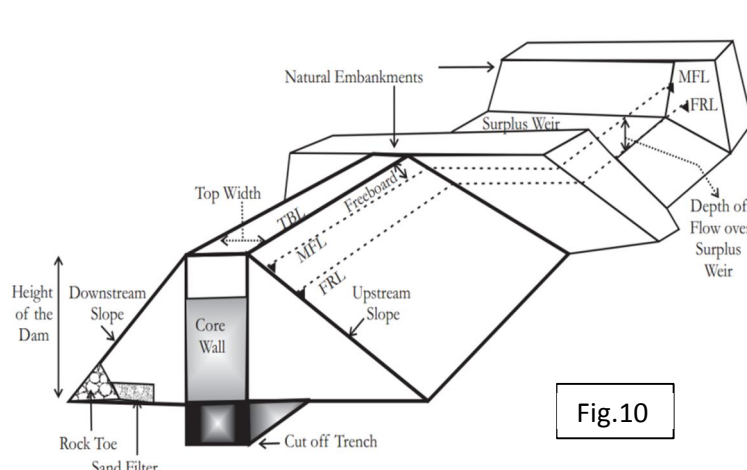


Fig.10



Fig. 11

Storage Capacity(Tui khuah in tui a khawl theih zat):

Kan tui khuah chuan tui engzat chuiah nge a khawl theih tih chu he formula hian chhut a theih a ni.

$$Q = \frac{LTH'}{6}$$

Hetiingin,

Q = kan tui khuah in tui a khawl theih zat cubic meter in.

L = Tui khuah bang sei zawng Full supply level a tehin.

T = Tui khuah bang atang ngil taka tehin a tui chim chin tawp thleng.

H = Tui khuah thuk zawng full supply level atanga tehin.

6 = hei hi factor a ni a, 4 atanga 5 pawh tawn hriat a zirin hman theih a ni.

Heta tanga thil lo lang Chiang ta chu, kan tui khuah tur chu tui luangkawm thei zat leh kan tui khuah in tui a khawl theih zat tur chu fimkhur taka chhut hmasak a him ber a, chumi mil chuan kan tui khuah tur thuk zawng te, tui paih tur chin te, a tlangpui chu a hriat theih dawn a ni.

Preliminary Volume of Earthworks(Lei ngai tur zat tlangpui):

Lei vung ngai zat tur tlangpui hetiang hian chhut tum leh chin ta ila:

$$V = 0.216 HL (2C+HS)$$

Hetiingin:

V = Lei vung ngai zat tur tlangpui cubic meter in.

H = tui khuah san zawng thuk zawng freeboard telin.

L = Tui khuah sei zawng.

C = a chung zawl zau zawng (top width).

S = tui khuah lei chhun slope/a awih dan lak kawp.

Entirna: tui khuah upstream side slope chu 1:2 leh down stream slop chu 1:1.75 ni se, S = 3.75

The embankment (Lei hmanga tui khuah slope vawn dan:

Lei hmanga kan tui khuah chu a chim mai loh nan slope uluk taka siam in vawn tlat tur a ni. Lui hnar lam side chu upstream tih a ni a, slope vawn tur chu 1:2.5 to 1:4 a ni. Lui mawng lam hawi side chu downstream tih a ni a, slope vawn tur chu 1:2 to 1:3 a ni.

Freeboard (Tui chim loh tur chin):

Hei hi tui khuaha tuiin a chim ngai reng reng loh tur chin sawina a ni a, a tlangpuiin 0.5m – 1m aiin a tlem tur a ni lo.

Core depth and thickness (Tui khuah lai mu):

Hei hi tui khuah lai mu a ni a, tui put tlang loh na tur a tlak lei sawh muk 2m-4m a chhah a ni tlangpui a, a thuk zawng emaw san zawng hi tui khuah thuk lam 75% vel a ni tlang pui a ni.

Crest width/top width (tui khuah chung zawl):

A chung zawl hi meter 2 aiin a zim tur a nilo. A tlangpuiin Dam tenau pawh hi meter 5 thuk hi a ni deuh veka, a chung zawl hi meter 3 hman mai emaw he formula hi a hman theih bawk.

$$Cw \text{ (in m)} = 0.4H + 1$$

Cw~a chung zawl, H~ tui khuah thuk zawng.

Settlement allowance (a tlakhniam theihna) :

Dam hi siam zawh a nih hnuin 5%-10% in a tla hniam ve leh thei a ni.

Surplus Weir/waste weir(tui chuang liam paihna):

Hei hi tui khuah atanga a chim tur chin level bak tui chuang liam paih chhuahna atan a siam a ni,

Earth Dam hi a man tlangpui chu tui cubic meter khat zel a chhut in Rs 20 – Rs 30 man ang vel a ni. **Wages : Material ratio chu 95:5 a ni.**

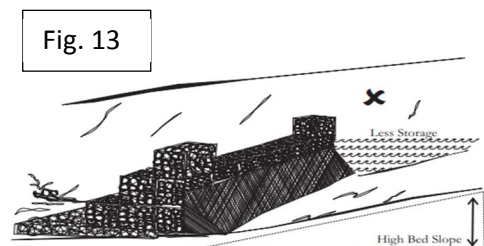
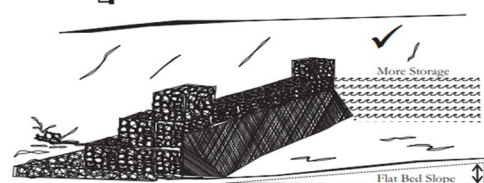
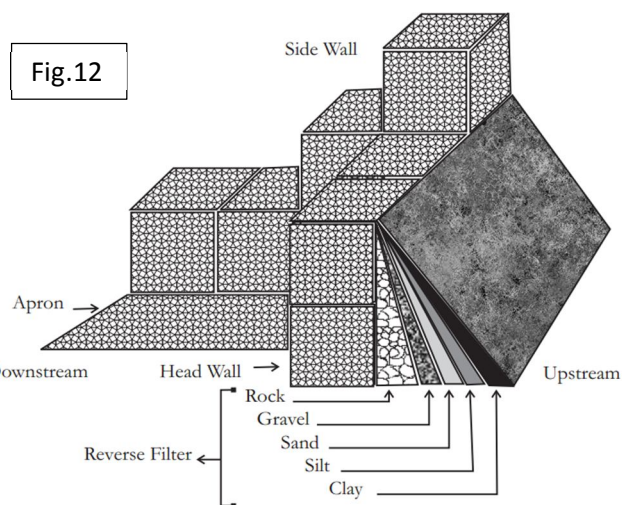
6. GABION STRUCTURE:

A tangkaina te:

- Lei luangral tur veng tu a ni.
- Lei nawi a lo dang chat a, hei hian lui mawng lama tui khuah paw-mawh tak te leiin a chhilh khat mai tur a veng.
- Lei tang khawm te chu lei tha a ni a, thlai chinna a tan lakchhuahin a tang kai.
- Lei hnuai tui a ti pung.
- Tui luang ral mai tur chu lo ti muang in rei zawk tui a awm tir thei a, hei hian hun rei zawk hman theih turin a chhawp chhuak a ni.

Siamna hmun:

- Gabion structure pakhat tan hian tui lak khawlna area (catchment area) chu 5ha vel a ni a, hemi ai catchment area tlem ah chuan boulder check siam a tawk chauh a ni.
- Tui a khawl tam theih nan, a siamna hmun chu hmun zawl lai, tui khawl tam thei tur lai a siam ni se. fig.13 a entir ang hian.
- Tui tlin khawmna hmun chu tui lei hnuai a zep relh theihna hmun a ni tur a ni. A chhan chu kha tui tling khawm kha tui hna ti pung tu tur atan a kan ruahman vang a ni.



Design:

- Lung thir phiar hmanga fun khawm (pack) a ni a, inhe rem takin uluk taka rem khawm tur a ni.
- Thir phiar (wire mesh) chu rectangular shape dik tak a kil pawl ngil tha tak a ni tur a ni a, hemi a kilt i khawng tur hian rod te pawh dah thin a ni. Fig 14 a entir ang hian.

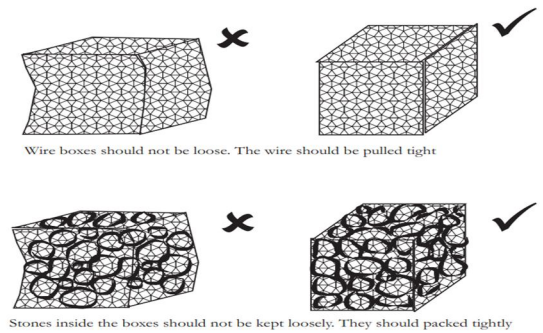


Fig.14

7. MINI PERCOLATION TANK/WATER ABSORPTION TRENCH:

SOAK PIT:

Soak pit chu lei chhuat hnuai lama khur, tui lei hnuai a lut thei tur a ruahman hmanrua hi a ni. Hei hian lei hnuai tui inkhawl chu tipungin tangkai taka hman theiha siam tu a ni. Soak pit hian rannung mihring tana hlauhawm tak tak tui luang sawn lo tling reng atanga lo piang thei tur a ti tlem bawk a ni.

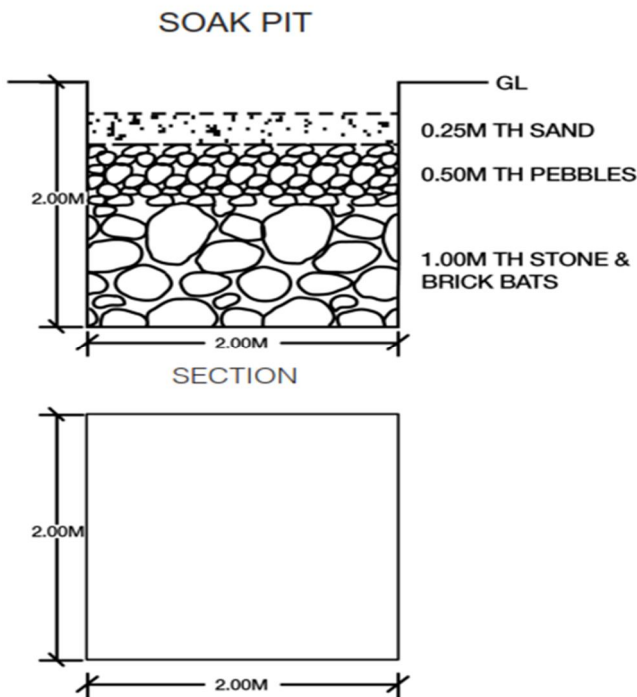


Figure 15 : Soak pit

A hmun tur thlan dan: soak pit chu tui chhunchhuah, tui pump emaw tui pipe hmanga lei h nuai a mi lak chhuahna hnai ah siam tur a ni.

Design Drawing leh pawisa ngaizat: Pit size (2mx2mx2m) chu 2m a sei, 2m a zau, 2m a thuk a ni a, a mawng atanga teh in meter khat chin chu lung leh brick hmanga thun khah tur a ni. Chumi chung metre chanve (0.5m) chu tiau lung hmanga thun khah hnuah 0.25m vel chu balu hmanga thun khah tur a ni. A bak 0.25m la awm chu tui dawng khawl tu tur a tan dah awl tur a ni. Ti hian tui chu lei hnuai ah

bawlhhlawh telloin a lut tawh mai dawn a ni. Khur khat atan pawisa ngaizat hi

Rs. 2,200/- bawr vel a ni. Labour : material ratio chu 40:60 a ni.

RECHARGE PIT:

Recharge pit chu lei hnuai tui ti tam tu a ni a, lei hnuai tui pipe hmanga lak bore well, tui chhunchhuah, tui kut hmanga pump chhuahna lei hnuai tui ti tam tura a bul hnai a siam tur a ni. A chunga tar lan tak soak pit nen a function chu angkhat reng a ni.

A hmun tur thlan dan: soak pit chu tui chhunchhuah, tui pump emaw tui pipe hmanga lei hnuai a mi lak chhuahna hnai ah siam tur a ni.

Design Drawing leh pawisa ngaizat: Pit size (2mx2mx2m) chu 2m a sei, 2m a zau, 2m a thuk a ni a, a mawng atanga teh in meter khat chin chu lung leh brick hmanga thun khah tur a ni. Chumi chung metre chanve (0.5m) chu tiau lung hmanga thun khah hnuah 0.25m vel chu balu hmanga thun khah tur a ni. A bak 0.25m la awm chu tui dawng khawl tu tur a tan dah awl tur a ni. Ti hian tui chu lei hnuai ah bawlhhlawh telloin a lut tawh mai dawn a ni. Khur khat atan pawisa ngaizat hi Rs. 5,000/- bawr vel a ni. Labour : material ratio chu 15:85 a ni.

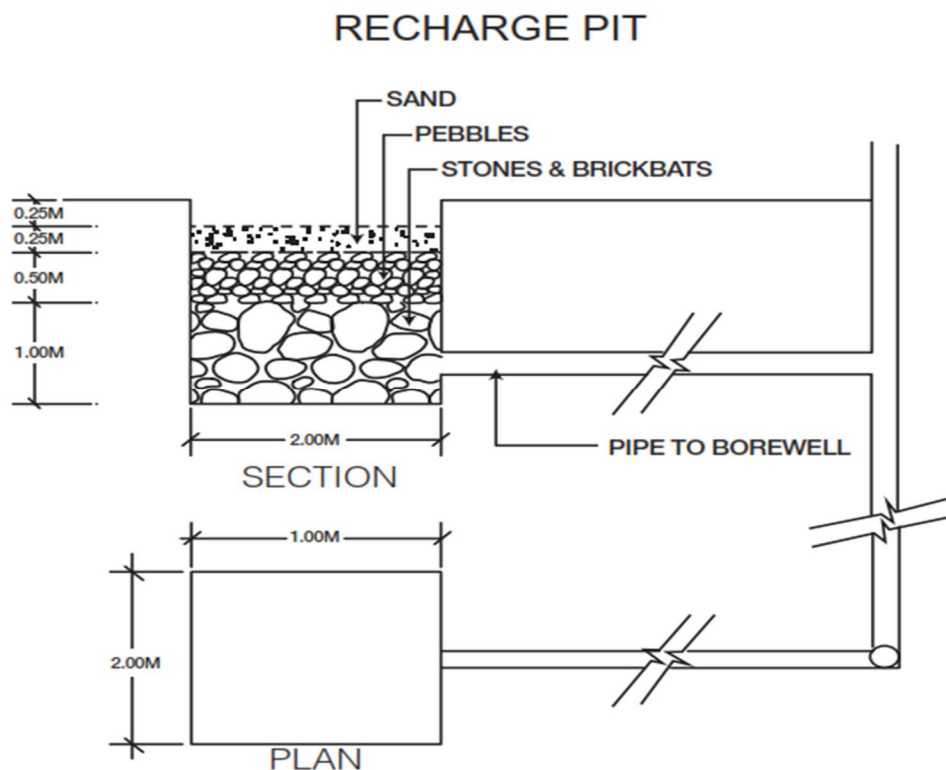


Figure 16: Recharge pit.

Watch <https://www.youtube.com/watch?v=6FYIMj0o3-A> for soak pit and recharge pit

SPECIFICATIONS

SAND: The sand should be free from clay particles

PEBBLES: Before filling in the pit pebbles should be cleaned properly and the over aged pebbles should not be used.

STONE AND BRICKBATS: The hard stone, properly cleaned should be used and the brickbats should be of properly burnt bricks.

NOTE: It should be ensured that the filling material is cleaned properly and hygienic.



Figure 17: Recharge pit & Soak pit preparation.

8. STOP DAM:

Stop dam hi tui luang lai hnar nei tha kumtluana luang ang chi ah hian siam thin a ni. Fur ruahtui luang ral mai tur lo ti muang a, hun rei zawk hman theih tura lo dang chat tu a ni. Fur ruah tui tam lai chuan tui luan chhuahna gate chu hawn thin a ni a, hemi hian lei nawi tuikhuah chhuata tling khawm tur a ti tlem a ni. Fur ruahtui a zawh hnu chuan gate chu khar leh niin, tui chu a in khawl tha leh in a lo khat leh mai thin a ni.

1 hectare ram a tan hian stop dam chu 20m a sei, 2.7 a thuk, a chung zawl 1.5m leh a bang slope 1:1 size hi a tawk thawkhat viau zel a ni. Hei hian Rs. 5lakhs vel man a ni. Tui a khawl atanga teh a Cum rate chu Rs. 90-100 a ni. Stop dam hi lung rem emaw brick hmanga siam theih a ni a, heng hmanrua te hi awlsam taka hmuh leh hman theih a n ni tur a ni. Gate atan hian Pre fabricated metal hman tur a ni. Labour: Material ratio chu 25:75 a ni.



Figure 18: Stop dam

AFFORESTATION

THINGPHUN A NGAW SIAM

NREGA leh National Afforestation Program (NAP) kaih kawp hi a hlawkthlak em em a. National Forest Policy, 1988 in a lo hmahlir angin kan lei hmun thuma thena hmun khat hi ngawa siama thingphun khah vek hi Environment and Forest Ministry chuan a hna hlen tum a ni. He hna hi a hautak em avangin MoEF ngawt tan chuan hlen a harsa a. NREGAS nena tankawp chuan a awlsam sawt dawn a ni. NAP inkaih hruaina bu-ah pawh thingtlang lam hmasawna tur programe nena kaih kawp tha a ti a, chu chuan ramngaw kilkhawr deuh leh khawtlang / mimal ram te chu a zavaiin hma a sawntir thei ang. Mihring leh ramngaw te inkungkaih dan ngaihtuah ran chungah thawhdunna chuan NREGA hnathawhnaah ruahmanna siam chungchangah leh ramngaw humhalh chungah hnathawhnaah nasa takin a pui dawn a ni.

NATIONAL AFFORESTATION PROGRAMME (NAP)

NAP hi sawrkar laipui ruahman ang thlapa kalpui a ni a. A tum ber chu mipui tam zawk huap tela ramngaw hlutna hman tangkai a, a bikin hmun kilkhawr leh mi harsa zawk tana hmasawna hi a tum ber a ni. NAP scheme hian Joint Forest Management Committee (JFMC) village level ah leh Forest Development Agency (FDA) forest division level a kalpui mekah te puihbawma tihchak a tum ber a ni. NAP Scheme hnuai sum hmuhte hi ramngaw siamna tur atana tih a ni. A hlawhtlin nan chuan a puibawmtu awm ve a tul bawk a ni. Heng atan hian sum hmuh theih a ni :

(a) **Ramngaw siamna atan:**

- Leilung pianken siam thar leh nan
 - Mihring siam chawp tih hmasawn nan
 - Mau phun nan
 - Hroi chi phun nan
 - Damdawi atana hman theih chi hrang hrang phun belh nan
 - Hlobet leh hnimbuk kumtluana nung tih thar leh nan
 - Ran peh tur phul hnim tih hmasawn nan
- (b) Khawtlanga JFMC leh pawl te dang te tih hmasawn nan
- (c) Leilung leh khaw ro leh hnawng tur ven nan
- (d) Entry Point Activity (khawtlang hmasawn nan ; Hactare khat thingphunah Rs.4000 vel zela puih nan)
- (e) Ram hung nan, endika a hlutna chut nan, training, awareness atan

NAP hi thuang hniha kalpui niin, Forest Development Agency hi forest division level-ah leh Joint Forest Management Committee (JFMC) hi village level-ah te a ni.

Thunehna sem zai te, mipui tam zawk tel avang leh NAP hna kalpui dan avang hian NREGA hna thawh a puhruk thui thei hle a ni. NREGA hna hi PRI in a kalpui a ni a, zaa sawmnga hi Gram Panchayat in a thawh a ni bawk. A department thawhpui thenkhat forest department te pawh a ti hlawhtlingtu te zinga mi an ni a, a kalphung erawh chu forest department te duh angin a ni thung. NAP hnuai project huam chin

chu ramhnuai leh khaw inrina leh ram intawm te, vantlang ram te, revenue ram duh tawh loh te, thlawh hma ram leh mimal ram te, NREGA hnuai ah pawh an thawk tho bawk a ni.

CONVERGENCE TEHNA TUR TE

NREGA hnuai ah convergence (Department hran tangkawpa hna khat thawh dun) a hna thawh turte chu NREGA tehna hmanga ruahmana thawh tur a ni, chungte chu:

- a) Hna thawhna atana sum hmuh za a sawmli ai tam hi hna thawktute hlawh atana hman loh tur a ni.
- b) A theih chin chinah hna te hi kut ngeia thawh a khawl hman loh tur a ni.
- c) Contractor rawih phal ani lo.

NREGA LEH NAP TE CONVERGE TURA NGAI TE

Heng programme pahnih NREGA leh NAP te thawhdun nan chuan heng kawngah te hian an inkaih kawp a ngai dawn a ni

- (I) Enkawl danah
- (II) Ruahmanna siamah
- (III) Hna thawhnaah

ENKAWL DANAH

DPC NREGA (Collector/ CEO)-ah chuan district level-ah District Resource Group awmin Forest Department leh Rural Department , Panchayati Raj leh Block level a group atangin aiawh te an tel tur a ni .

Group te tangkaina tur

- (a) **Hriatna** insem : NAP leh NREGA inkaih hruaina danin a phut anga group member zawng zawng inhriatchian. Hei hian hna converge tur leh tur loh chungchanga programme tehna tur a ti chiang ang.
- (b) **Ruahmanna** siam : He programme pahnih hnuai ah hian hna kal mek a awm lain, ruahmanna thar siam ngaite a awm bawk a, group ten hna kal mek te enfiaha ruahmanna thar tul ang te an siam bawk a ngai ang.
- (c) **Inbiapawhna** : Heng programme pahnih te hian mipui tam zawk tel theihna an duh avang hian khawchhung mite, group hmang tangkai tu te, hnathawk te, ramhnuai ah cheng te nena tha taka inbiapawhna tur ruahmana tihpuitlin a ngai bawk.
- (d) **Training** : NREGS leh NAP atana thawktu mimal/pawl a mawhphurtute training pekna tur ruahmana tihpuitlin.
- (e) **Technical support** : Thing phuna rawngaw siam anih nan chuan khawl lama mi thiam bik ten hmanraw hman awm tawh leh phal chin te, hna tur thlan nan leh ruahmanna siam nan te a tul anga kawng an kawh hmuh a ngai bawk. NREGA hna thawhte endika chhuizui a nih nan thiamna mamawh ang chu NAP in a pe tur a ni a, tichuan duan lawk angina hna a kalpui theih dawn a ni.

(f) **Hmanraw pawimawh tan ho tir :**

(i) **Mihring :** NREGA hnuaiiah hian mimal tana kawng hawn tur a ni a. District a afforestation kalpuinaah forest department atangin aiawh a intirh theih a, tin, mimal thiamna in a tlin chuan contract a thawhtir theih a ni bawk.

(ii) **Sum :** Sum lam dinhmun inhrilh hriata kum lo kal leh tura sum hmuh beisei zat te sawi ho tur a ni a. Hei hian hna kalpui theih chin te, khawilaiah nge converge a sum tihpunna tur leh eng programme hnuaiiah nge kalpui tur tih te a hril bawk.

(iii) **Hriattirna lam :** Inenkawlina thil vel inkawhhmuh chu NREGA MIS kal tlangin a hna thawh/thawktu bika then darhin a in converge theih a. NAP in belh duh dang a neih chu NREGA MIS leh RD Ministry te sawi dun hnuah belh leh theih a ni.

(g) **Vil zui leh a hlutna chhut :** A huhoa hna te en a vil zui fo tur a ni a. A bulthut enfiah a, hna thlithaia NAP leh NREGA hnathawhin khawtlang mamawh te ramngaw tichhe lova a puhruk dan atangin a teh theih a. A chhawr tangkaitu an tam chuan hna kalpui zel theih a ni.

HNATHAWH DAN LEH RUAHMANNAM SIAM KAWNGA CONVERGENCE KALPUI DAN TUR

NAP nena in converge chuan a lem ziaka ruahmanna siamah leh annual plan ah te telh ve ngei tur a ni a. NREGS inkaihhraina dan chuan district hmasawna tur bik awmze thlir chung a plan siam tur a ruat a. A tum ber chu NREGA hna thawhte district a tih zui tlak leh hna thawh tur daih rei leh chhawrzui tlak lo thliar hran a ni. NREGA ziaka ruahmanna siamah chuan sector hrang hrang te mamawh leh inthlauhna te NREGA hnuaiia hna thawh chauh nilo ah pawh a thai lang bawk. He plan hnuaiiah hian thingphuna ramngaw siam hi kalpui a tha a. Kum tam tak chhung kalpui atana tha tak a ni.

NREGA hnuaiia Annual Work Plan (NAP) chuan Gram Sabha pawm tawh hna thawh tur a thliar a, chung chu Gram Panchayat/IP/ZP ah te thutlukna siam a ni a. Lem ziaik nen thlapa plan siam anih chuan AWP chuan chung zulzui chuan hna a thawk anga a, mahse Gram Sabha in a pawmpui a tul thung ang. NREGA plan chu NREGA hnuaiia hna thawh theih chin huam chauha siam tur a ni.

Ruahmanna tenau deuh chu JEMC/EDCS in NAP guideline angina a buatsaih ang a, chu chu FDA kaltlangin NAP hmsawn nana hman tur a ni. NAP hnuaiia thawh tur ruahman te chuan heng hi a huam –

- (I) Lei awmsa leh boruak hnawna teha humhalh
- (II) Engineer te ruahman siam hmanga lei leh boruak hnawna te humhalh.
- (III) Tangkaina nei tam thing te, hnim te, hnim buk te leh bekawm nei chu te leh thing tum chi ni lem lo te pawh phun a chin tam.
- (IV) Thintlang lam mite tana tangkai tur tuah chi thing leh ran chaw leh phul hnim phun uar.
- (V) Damdawi atana hman chi thlai tualto te humhalha tihpun.
- (VI) Mau, hrui chi leh damdawi chi thing leh mau enkawl zui.
- (VII) Tuipui kama ram chin venna atana hman theih invet kual chi hrui te harsatna hmuna dah tam.

(VIII) A hnam anga hmalak.

(IX) Agriculture leh silk pangang leh a dangte a remchan anga tihhmasawn.

(X) Thing pangai leh buah chi thing bim humhalh nan thing heh lo thuk sem.

(XI) Thil thar thehdarh nana hmalak.

A chung no (i) – (ix) te hi NREGA hnuaiah pawh a thawh theih a. Chuvang chuan heng hna ramgaw lam kaihnawih, khua intawm ram, khawtlang ram, revenue duh tawh loh ram, lo atana neih ram leh mimal ram te hmasawna tur bik deuha hmalak. NREGA hnuaiah thawh tur te chu NREGS in a thlang ang a. NREGA hnuaiah thawh theih loh si, NAP hnuaiah thawh theih chu NAP in a thlang thung ang.

HNA A TAKA THAWKTUTE

Forest department leh Gram Panchayat te bakah Joint Forest Management te pawh hi a taka thawktu an ni ve bawk.

HNA THAWHNA TIH DANGLAM THEIH LOH

(a) NREGA hnuaiah Job Card nei chauh chhawr phal a ni.

(b) Hming lama bu neih a chu chu Gram Panchayata a copy dah a nrega.nic.in ah te dah loh bawk tur a ni.

(c) Gram Sabha kaltanga social audit neih thin tur.

(d) Bank account / post office mumal lo atanga hlawh sem loh tur.

(e) NAP atanga sum te hi NAP hnuaiah ramgaw siam anih chauhin dawn theih a ni.

PROGRAMME CONVERGE NANA HRUAITU TUR

District thlan bikah an ram leilung azirin programme tam tak converge theih a ni a. Chung te chu a chung a tarlan anga kalpui tur a ni. Hruaitute chuan zirchiangin an chhui ho ang a hna thawh belh tur te pawh an enzui ang.

NREGA LEH NAP KALTLANGA SUM HI HNUAIH TUR A NI

HENG INKAIHRUAINA TE HI FOREST DAN HNUAIA KALPUI TUR A NI.

9. ROAD SIDE PLANTATION:

Introduction:

MGNREGS thiltum puiber pawimawhtak pakhat chu “ Sawrkar kum chung athingtlang a chungkaw tin ten an mamawh ang zel a ni zâ aia tlemlo kuthnamawl thawk tur a inhlawhna siam sak a chung hmang a thil tharchhuak thei leh daihrei zawk bungraw din leh sak leh siam” leh miretheite eizawna tihchak te hi a ni.

Schedule-I-para-4(I),I.(v) chuan “Vantlang ram te, ramgaw te, kawng kamte, tuilakna kam te, tuikhuah kamah te leh tuipui kam vel te a ramgaw siamthar te, thing phun te hi paragraph 5-na a a huam chin chungkuate te dikna hriatsak chungin a phal a ni”. Kum tin a intodelhtheihna tur a rahchhuah nei thei awmchhun assets chu thing chiah hi a ni. Heivanghian MGNREGS ah chuan thingphun hi ngaih pawimawh em em a ni.

Kawngkam athing phun:

Kawng chi hrang hrang heng – national, state highways, PMGSY leh thingtlang khaw kawng hrang hrang kamah te hian thing phun \hin a ni a, amaherawhchu, phun thar na tur leh enkawlzuina tur fund tlakchham avang te in kawng tam tak kamah thing phun theih a nilo a ni.

Kawng kam a thingphun hian rah a chhuah mai nilovin kawng venhim naah tha thawh ve in khuarel inbuktawkna awm thei tur in a pawimawh in khawvel lum zel tur ven kawngah a pawimawh hle dawn a ni.

A aitechhin nan, mumal leh awmzenei takin MGNREGS hnuaiah PMGSY leh national highway kamah te thingphun tur a ruahman chhin a ni.

A thil tum :

- i. Thingtlang mirethei te tan a ngelnghet, rahchhuah leh duah\ha eizawna tling buatsaih sak.
- ii. Khuarel inbuktawkna a awm theihna tur atan a thingphun hna hmang a tui leh leilung venhim hnathawh

PMGSY kawng thlan chhuah:

Gram Panchayat/Zilla Panchayat leh MGNREGA officers te rawn chung in PMGSY officer in PMGSY kawng kama thingphunna tur te chu a thlang ang a (Kawng kam hmunawl tha awmna te thlan tur a ni)

Pradhan /Sarpanch/ Members of Gram Panchayat leh Gram RozgarSevak te tel vekin Transect walk neih tur a ni (a phunna hmun tur thlang tur te, a zauh lam bituk tur te leh thing phunna chin leh phunlohna chin tilang tel sketch buatsaihna turin). Transect walk tih hian engkim fel tak a chhinchhiah tur a ni.

Kawng dung zui zawng in avenue plantation a tih theih ang a (kawng ko piah lamah), kawng ep a sawrkar ram awmna ah kawng himna ngaihthawh bawksilo in thing a phun theih baw a ni.

National Highway thlan chhuah

National Highways chu NHAI in a thlang tur a ni. National Highway kam a thingphun hna reng reng chu NHAI te nen a thawhho ngei ngei tur a ni a, estimate a material component te chu MGNREGA hnuaia a State Employment Guarantee Fund chhunluh zat baw kha NHAI hian a chung ve ang.

Beneficiaries thlan chhuah:

Revenue thuneitu te ne a inrawn chungin Gram Panchayat chuan he programme hnuaia kawng kam a thingphun na tyur thui lam an bituk ang.

Hna tan hma in kawng kam a khua atangin Para 5 of Schedule-I of the MGNREG in a tarlan chungkua te atangin beneficiary tur kan thlang in kan rem fel thlap tur a ni a. Heng thlan chhuah ho zingah hian kawng thlan chhuah kam a ram nei te chu ngaih pawimawh hmasak tur a ni.

Beneficiary thlan chhuah te leha kawng thlan te chu Gram Sabha pawmpui turin an hmaah pharh tur a ni.

Gram Sabha in an pawmpui hnuah chuan Gram Panchayat te chuan beneficiary thlanchhuah te aiawh in hmun thlanchhuah chungchang a thuneitu hnenah dilna (Proformain **Format I**-thil tel a ni) an siam in sheme hnuai a thingphun ang dil ang a, thingphun na hmun tur zauhzawng te, beneficiary hming te leh thing phun tur hming te chiang takin an ziaak tur a ni.

Phalna:

- i. Format I hmang a dilna a dawng a nih chuan thuneitu mawhphurtu chuan phalna pek tur nge pek loh tur tih ah thutlukna a siam ang.
- ii. Heng te avang hian dilna chu hnawl theih a ni ang: (a) Vantlang himna ti derthawng thei a nih in, (b) ram chu inchuh emaw a remchanglo a nih in, (c) Nakin lawk a sawrkar department in an mamawh tur ram anih chuan.
- iii. Thingphun pallohna reng reng chu thuneitu sang zawk, thingphun phallo tu thupek sut leh thei leh phun phal tur a thupe thei hnenah a thlen leh theih a ni.
- iv. Phalsakna atan chuan Format II hman tur a ni ang a, chuchuan thingphun leh humhalhna kawng a thuneihna pe in thingte chu a in rochun theih rual in midang hlanhhawn erawh chu a remlo thung a ni.
- v. Beneficiary tin te chu thing 200 aia tamlo phun theihna tur ram an bituk theuh ang.
- vi. Thuneitu sang zawk in MGNREGS Programme Officer report tlawhchhanin leh Ram venhimna a tana thuneihna pek a nih angin, hamthatna dawngtu in heng a hnuai tarlan ang hi a tih chuan Phalna pek tawh chu sut leh theih a ni:
 - (a) Scheme ang a a tihtur ang a tih loh in.
 - (b) Ram a tih chhiat emaw tihchhiat a tum in.
 - (c) A ram ri a mi te rama a luh in.
 - (d) Ram chhungah Dan palloh thil a tih emaw tih a tum in.

Usufructsor the Tree Pattas:

He scheme hnuai a Thing nei tur a Hamthatna dawngtu chu an thlahte lehzel tan pawha in rochun theih leh lak hran theih loh dikna chanvo an nei a ni, Mahse Thing awmna hmun ram te erawh chu a huam lo ang. An dikna chanvo an neih theih na tur chuan hmthatna dawngtu in hetiang a hna a thawh in:

- (a) An than chhoh zel na tur a hnathawh te, venhim te, chhungkaw mi tu emaw berin tui pek dan tur ruahman sa angin tui pek te a ni.
- (b) Vantlang thil leh Thing te chu tichhe lo in, a lo puitlin tawh chuan a rah seng theih a ni a, Tin, thingphun te chu kih a ngai anih chuan mumal taka in berawn in a dang phun leh tur a ni.
- (c) A ram atana pek a nih loh chuan mi ram ah a lut tur a nilo.
- (d) Ram pek chu a chhiat na tur in eng thil mah a ti tur a nilo.
- (e) Dan phalloh thil reng reng engmah ram pek chhungah a ti tur a nilo

Thlai chi hrang hriatchhuahna:

Thing chi thlan chu Mipui ten VC te, Forest department te, Horticulture Department te berawn in leh Thing awm theihna tur leh ram ngaih zawng tur te: ram ro, ram hnawng,dum (Chirhdum), Ram al leh a dangte IRC SP 21:2009 a rawtna angin. Thing phun dawn chuan VC ten Sawrkar nursery emaw Forest department atangin a kum khatnaah an la ang. Tichuan a kum leh atang chuan Self Help Group ten Nursery siamin thlai chi an pe chhuak tawh ang.

Nursery siam dawn chuan heng te hi hriat reng tur a ni:

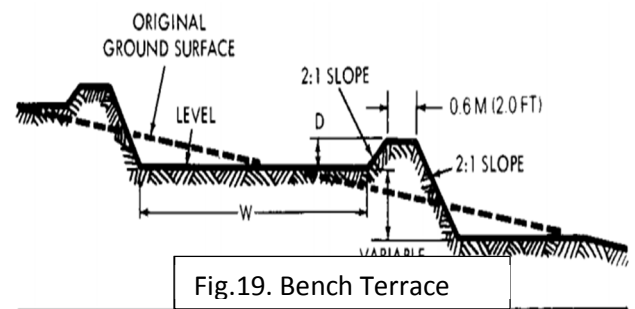
- a) Nursery chu Sawrkar ram ah emaw SHG te in bul hnai, tui pektur awmna hmun leh Thing china hmun hnaiha a ni tur a ni.
- b) Nursery siamnana kan hmanraw hman te chu ram leilung in a huat loh zawng, Mau, Di leh thilthek te a siam tur a ni. The
- c) A hungna atan chuan thlai hring vek emaw a hmun a hmanraw awm ang ang hman mai tur a ni.
- d) A awm remchang a nih chuan hnah atanga ip siam leh a tlukpui te, Polybag nilo ho hmang tura hmalak.
- e) FYM remchang awm thei thei te chu leitha atan hman tur a ni
- f) Nurseryah hian a hnachhawp a zirin, a hlawk theih dan ber tur thlir chungin rualbanlote, taksa chaklohna nei te, upate leh Jobcard neite hnathawk tur a ngaihpawimawh hmasak tur a ni.
- g) Thlaite hrisel tak a an awm reng theihna turin nitin a enkawlhna thawh dantur mumal tak a relfel thlap tur a ni.
- h) Mamawh zat ang mil zel in nursery ah chuan thlai tiak siam tur a ni.
- i) Nursery atan a thlaichi mamawh te chu Forest department lam berawn chung a ngaihtuah tur a ni.
- j) Nursery hna thenkhat heng: phun hma a thlai chi sawngbawl te, a hun tak a thlai chi tuh te leh adt. reng reng hi Forest Department kaihhruaina hnuai a tih zel tur a ni.
- k) Nursery siamna a tel SHGs emaw Committees te chu a khat tawkin Forest/ Horticulture Department in training an pe tur a ni.
- l) Gram panchayat 60:40 ratio hi vawn tlat tur a ni.

10. TERRACE

Terrace laihna hmun chu 33% aiin a awih tur a ni lo a, amaherawh chu, hmun thenkhat tlangram chhengchhe tak tak Himalayan region ang ah chuan bench terracing hmanna ah chuan 50% chin hmun awih ah pawh laih thin tho a ni.

Bench terrace chu:

- a) Table top for buh tuhna hmun atan.
- b) Inward sloping (Chhung zawnga awih)
- c) Outward sloping (pawh lama awih)

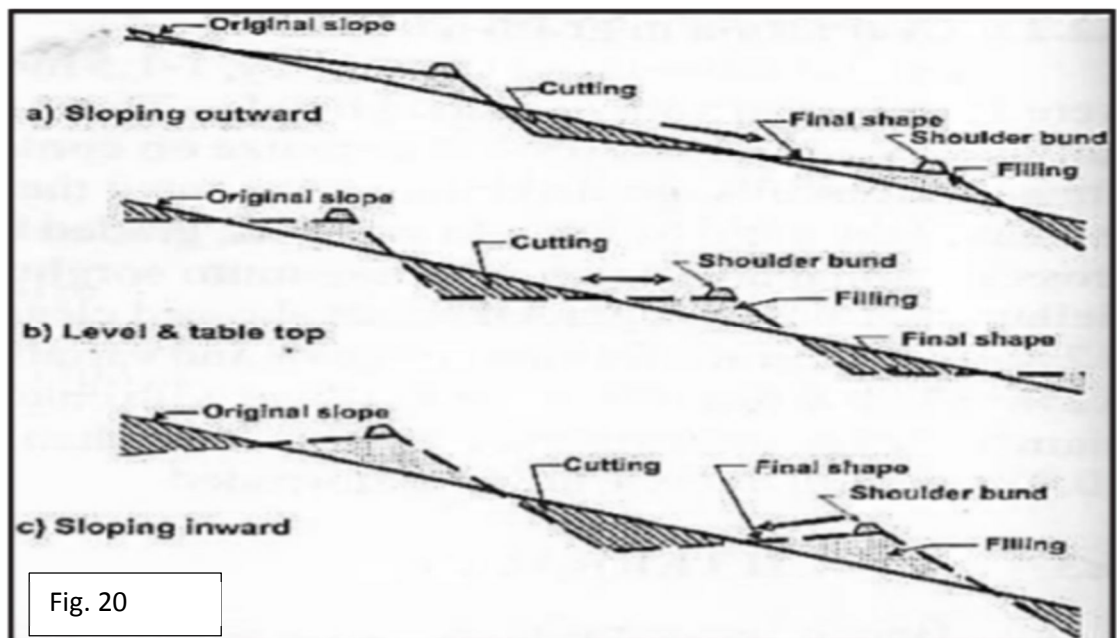


Heng laih dan phung hi thlai chin tur a zir te, ruahtui tam dan te, lei awm dan a zir te leh chindan thin te a zirin a danglam thei a ni.

a) Table top te hi ruahtui pangai taka dawng, lei tui hip chak awmna hmun ah hman a ni thin a, buh chinna atan a tha a ni.

b) Inward sloping (Chhung zawnga awih) ang te hi chu ruahtui tam na hmunah hman an ni thin a, alu chinna atan hman thin a ni. Tui paih zung zung turin a chhung hawi zawngin a awih a laih a ni.

c) Outward sloping (pawm lama awih) hi ruahtui tlak tlemna hmunah a tha hle a, Lei tui hip chak leh pawmlang tak ah te siam a ni thin. Hmun thenkhatah chuan bench terrace te hi hmun awih phal chin piah lam 33% pelah te an siama, zir chianna atanga a land an chuan terrace te chu 50-70% slope ah pawm lama awih in an siam a, hei hian lei chunglang lei hang tha a ei ral nasa hle a, heng te hi lung hmang emaw lei hmanga bial tlang siama dan tur a ni.



Terrace Laih dan:

Terrace chhuat chu zawl khata (contour line) awm tur a laih tur a ni. A inkar hlat zawng pawh a chhuat zau zawng tawp a tanga teh a mumal taka vawn tur a ni. Terrace laih chu kawi vut emaw in elh lutuk a laih loh tur a ni. A ngil thei ang ber leh kual mumal taka laih tur a ni.

Terrace laih chu a tlangpui thuin a chung lam a tanga tan hi a tha a, mahse lei chung lang lei tha dah tur chuan a hnuai tanga tan ve thung tur a ni. Chumi a nih loh chuan lei chung hang tha chu lak khawm hmasak a, laih zawh hnuah dah let leh mai tur a ni.

Spacing of terrace:

$$VI = \frac{S \times Wb}{100 - (S \times U)}$$

VI : vertical interval, in m

S : slope in percentage (%)

Wb : Width of bench (flat strip), in m

U : Slope of riser (using value 1 for machine-built terraces, 0.75 for hand-made earth risers and 0.5 for rock risers).

Example: Calculate the VI of 4 m wide, hand-made benches on a 30% slope with earth risers.

$$\begin{aligned} VI &= \frac{30 \times 4}{100 - (30 \times 0.75)} \\ &= 1.55 \text{ m} \end{aligned}$$

11. Micro and minor irrigation works and creation, renovation and maintenance of irrigation canals and drains:

Irrigation hi ram leilung aṅanga tharchhuah puitu leh ti pungtu pawimawh tak, retheihna um bona tura hmalakna pawimawh tak mai a ni. Nimahsela, hmasawna tichaklotu leh a nihtur ang a nih theihlo ṅhinna chu irrigation kalphung a nih tur ang taka kan kalpui ṅhinloh vang leh ram leilung enkawlina tur atana tui lakna ṅha kan ngaihsak tawkloh vang leh kan tui kawngte (channels) kan enkawl uluk loh vang an ni ṅhin. Heng a hnuai mite hi MGNREGA hnuai irrigation kaihhnawiha hna thawh phal chinte chu an ni:

- I. Irrigation canals
 - a. Construction of canals, Distributary and Minor
 - b. Desilting of canals
 - c. Lining of canals
 - d. Renovation/correction of water conveyance system.
- II. Minor Irrigation works
 - a. Well irrigation
 - b. Well irrigation under conjunctive use
- III. Micro Irrigation.

12.1

Canal han tih chu tui kawng tihna a ni deuh mai a. Lui tui emaw tui dahkhawlna (reservoir) aṅanga tui lo kalte kan hman mamawhnaa hman tura tui lak penna atana tui kawng kan hai chawp hi a ni. Canal lian pui pui a awm a, chung chu major distributory an ti a; nimahsela huan leh lo vela tui pekna atana kan hman mamawh ang chi erawh chu a canal te zawk an nih vangin minor distributory tih an ni.

12.2

Irrigation atana hman tur hian tui hna awmna laiah tuichhun laih ṅhin a ni a, chu tuichhun chu mimal tana hman tur ni lovin MGNREGA hnuaiia minor irrigation atana hman tura ruahman tur a ni. Tuichhun bul hnaia huan/lo neituten an inremsiamna in laih tur a ni a, chu tuichhun chu an huan thlai chawmna tui lak nan an hmang ṅheuh thei dawn a ni.

Tuichhun laih hna chu thawh a nih hmain a kaihnawih sorkar department hnenah hriattir hmasak tur a ni a, anni lamin tuichhun laihna hmun tur chu zir chiang hmasa in, tui awmdan te an zir chian hnuah chauh ruahmanna leh laih mai theih tura inbuatsaih theih chauh a ni. Tin, tuichhun chu inhman ṅawm tur thil a nih avangin a ram neitu leh hamṅhatna dawngtute chanchin chiang taka ziaak leh ram neitute inrem siamna (MOU) te chu ruahmanna siam hunah felfai taka thil tel tur a ni.



Fig.21. *Irrigation atana tuichhunchhuah siam*

12.3

Huan leh lo te hi hmun zawl vekah a awm ṅhinloh avangin ṅlangram leh hmun sang lai deuhah chuan irrigation atana hman tur tui dahkhawlna hi hmun sang laiah siam a, chuta ṅanga tui luan thlak tir leh mai ṅhin a ni a. Chumi atana tui thiar chhohna chu Lift Irrigation an ti a ni. Pump hmangin emaw thil dang pawhin tui hi lak chhoh theih ṅhin a ni.

12.4

Tui kawng siam ṅhat hna thawh laia hriat reng tur te:

1. Kan tui kawng thawmṅhatte chu a kuang chu ṅha takin, chhe mai theilo turin kan siam tur a ni a.
2. Tui kuangte chu nghet takin kan sawh anga, a theih pheii chuan tui tlem azawng theh huhin nghet takin kan sawh muk ang. Khi ṅem ṅuam leh bal hek mai thei lai te awm hauhlo tur a ni.
3. Culvert hnaih deuh laia tui kawng awmte pheii chu ul tur a ni.
4. Tui kawng kan thawm ṅhat dawnin a lema entir tak ang hian trapezoid pian anga siam hi a ṅha ber a, a tlo ber bawk a ni.



Fig. 22 Canal design: Trapezoidal

5. A theih chuan kan tui kawng siam hi a sir tawn tawnte hi concrete emaw a siam theih ni sela, chu chuan tui luangin a chheh vel lei a ei hek nasa tur a veng anga, enkawl a nuam em em dawn a ni.
6. Tui kuang hi a slope atan lei sakhat deuhah chuan 1:1 hman thin a ni a, lei nemah erawh chuan 2:1 tepawh hman thin a ni.
7. Tui kawng laih faina lei vung hi a kam velah chhek tawp lovin, 1 m vel a kamah zuah awl phawt hnuah chhek khawm chauh tur a ni. He hmun zuah awl lai tak hi “Berm” an ti bawh thin.

12.5

Tui kawng (Canal) thuam that hna thawh dan turte:

1. Tui kawng hmun thenkhat 50% dawn lai lo chim emaw, lo chhia a awm chuan a theih anga siam that a, a kuang pawh thuam that leh tur a ni.
2. A chimna laia lei vung te chu hai faiin, a tlang bel that nan pawh a la hman leh zel theih bawh a ni.
3. A kuang slope chu 2:1 vel a siam tur a ni a, tichuan a hlui lo awmsa a tla bal lai leh bel tharna lai tepawh chu nghet takin a in char zawm thei dawn a ni.
4. Tui kawng chu hai fai mai bakah a sir vela hlobet awmte chu rih fai vek tur a ni.
5. Thing zung emaw hnim lian deuhthe pawh a zung nen chawpa thlawh fai tur a ni; hengte hian tui kawnga bawlhhlawh emaw thildang lo luangte a lo dang bet a, a hnawh tlat thin a ni.

12. Renovation of Traditional water bodies including desilting of irrigation tanks and other water bodies:

MGNREGA hnuaiiah heng tui kawng siam that hnate hi thawh theih an ni:

- I. Desiltation of Irrigation tanks and other water bodies.
- II. Repair, renovation/rejuvenation and restoration of traditional water bodies and existing irrigation tanks.
- III. Repairing of related structures.

13.1

Irrigation atana hman tur tui dahkhawlna(tank) kan hai faia, kan siam that dawnin hengte hi hriat reng turte an ni:

1. A awmna hmun ram awmdan a zir zelin tui dahkhawlna pawh siam rem tur a ni a, a ram leilung awmdan te, a catchment area te leh ruahtui tlak dan a zir tein tui dahkhawlna chu siam that a, tih len emaw tih fai tur a ni.
2. A tul chuan a luan luhna (inlet) leh luan chhuahna (outlet) tepawh tih len theih a ni.
3. Lei vungte chu tui dahkhawlna sir velah emaw chhek tawp lovin, 1m vel tal 'berm' dah awlin chhetk khawm tur a ni.

13. Afforestation, Tree plantation and horticulture in common and forest lands, road margins, canal bunds, tank foreshores and costal belts.

Thing phun hi khaw cheina leh hmun hma vel tih mawina te, a hlim nuam atan te mai piah lamah hian kan chenna leilung leh a boruak lo lum chho zel tur venna leh sik leh sa awmdan siamthatu pawimawh tak a ni a. Chuvang chuan MGNREGA hnuaiah pawh hian sorkar hian a ngai pawimawh em em a ni.

Thing phun pawimawh em em nate chu:

1. Chhum hiptu an nih vangin, fur ruah mumal takin a awm pah thin.
2. Ram chhengchhe lai deuhte pawh thing kan phun chuan tangkai takah alo chang thin.
3. Lei chunglang luangral tur a veng.
4. Leihnuai tui (groundwater) siamthar tu pawimawh tak a ni.
5. Ramngaw te siamtha in, nungchate tan chenna hmun tha a ni.
6. Sik leh sa awmdan siam tha tu a ni.
7. Lei lung tihbawlhhlawhtu (pollution) tam tak vengtu a ni.

MGNREGA hnuaiah thing phun hna thawh theihna tur ram/hmunte chu heng a hnuaia tarlarte hi an ni:

- i) Ram awl laiah (waste land)
- ii) Ram chhengchhe laiah (barren land)
- iii) Chi al tam lutuk na hmun, thlai dang thatlohna hmunah (salt affected land)
- iv) Ram/Huan thalo laiah (Problematic land)
- v) Tui dahkhawlna chhehvelah (tank foreshore)
- vi) Kawng kamah (roads/railways/canals)
- vii) Huan/Ram ri ah (field boundaries)
- viii) Zirna in leh anganwadi hmunah te.
- ix) Vantlang ramah te (common land)
- x) Ramhnuaiah te (forest land)

Thing phun hi hunbik nei thil a nih vangin kan thing phun turte kan kui tiah hun tur pawh ruahman fel a tul thin a ni. A phun hun tur ruatsa awmin, awmze neia nursery lamah thingte pawh kui tiah saa, chu chu a huna phun mai theih tura ruahman sa a tha a ni. Thing phun takte vil veng tur hian Village Monitoring Committee (VMC), Gram Panchayat/ Village Council hriat puinaa siam tur a ni a, anni hian hnathawhte 100% in an lo endikin an veng zui dawn a ni.

Thing phun dan kalhmang hi hlawm lian tak chi hniah then theih a ni a, chungte chu:

1. Linear Plantation
2. Block Plantation.

Linear Plantation: Thingte chu a tlar tlar zelin phun thin a ni a, hetianga phun dan hi chi hrang hrang a awm leh a ni.

i) *Bund plantation:* Khur lain thingte chu khurah chuan phun thin an ni a, a kar zau zawng in ang leh in dip buai lo turin siam thin an ni. Thing chi hrang hrang, a rah ei theih chi te leh a hriak sawr theih ang chi te pawh a theih vek a, thingte chu in dip buai lo leh ram neitu te tan pawha hnawksak lo chi a ni tur a ni.

ii) *Avenue plantation:* Khawchhung kawng dungah phun thin an ni a, a hlim hnuaiia thut hahchawlhna atan te leh khawchhung chei mawina a ni tel bawk a ni.

iii) *Road side tree plantation:* Kawng kama thing phunte hi an ni a, kawng cheina mai bakah kawngpui chhe tur vengtu tha tak a tling a ni. Kawng kam 0.5 metre velah phun thin an ni a, tui hawk luan kawr emaw traffic sign te dip dal lo turin rem takin phun thin an ni.

iv) *Canal side plantation:* Tui kawng kam sir tawnah thing phun thin an ni a, chu chuan tui kuang chim tur a veng tha a, thing hlim chuan tui hu ral tur a veng bawk a ni.

v) *Planting trees alongside railway tracks:* Rel kawng sirah thing phun thin a ni a, thingte hian rel kawng leh a chheh vela lei che sawn tur a veng thin a ni.



Fig 23. Bund Plantation



Fig 24. Avenue Plantation

Block Plantation: Block plantation-ah chuan ram chu then lian pui puiah siamin, chung a then chhungah chuan thing kung chi hrang hrang an phun ta thin a ni. Ramngaw siam tharna atan te hman thin a ni.

Institutional Plantation: Zirna in emaw, vantlang huap a chhawr theih chi in chheh vela thing phun hi a ni. Public Health Centre (PHC), Anganwadi Centres, Schools, Sorkar in etc. chheh velah te hian thing chi hrang hrang phun thin a ni.

Horticulture Plantation: Thing rah ei theih chi hrang hrangte vantlang ram emaw mimal hamthatna dawngtu huana phun hi a ni a, a pawimawh em em bawk a ni. Eitur rah an chhuah a, lo/huan neitu pawhin hmasawn nan a



Fig.25. Horticulture Plantation

hman phah a, tin, ram leilung siam thatna a ni nghal bawk a ni. MGNREGS pawhin hetiang ang hmanga thingtlang mipuite intun nun theihna tur lam hi a ngaihtuah pui nasa em em a, Horticulture leh Agriculture department lam nen pawh an thawk ho a ni.

Nursery: Thing phun tur kui tiahna hmunte hi “Nursery” tih an ni a. Kan hmanna tur a zirin Temporary leh Permanent te a awm hrang leh a ni. Kan thing phun hna thawh kal mek chu kum 5 aia tam kal pui tur a nih chuan Permanent Nursery hi siam thin a ni a, kum 5 aia tlem a ni dawn erawh chuan Temporary emaw Semi-permanent Nursery te siam thin an ni. Nursery siam dawna kan hriattur pawimawhte :

1. Nursery siamna hmun tur thlan kawngah:

- a. A hmunhma: Hmun laili tha laiah, pan zung zung awlsamna laiah thlan tur a ni. Tin, kan thing phunna tur hmun hlat lutuk lo ni se.
- b. Tui awm thatna hmun a ni tur a ni.
- c. Nursery kan siamna tur hmun chu hmun zawl tha, tui hawk luanna kawr mumal tak nei leh hmun fai tha a ni tur a ni.
- d. Lei sak leh ban lutuk awmna hmun ni lo se la.

2. Nursery pian phung: Nursery chu a theih chuan killi nei (rectangular) anga siam tur a ni a, a chhungah chuan kal velna tur kawng zuah awl tur a ni. Endikna atana vah velna tur leh a chhunga chet velna turin kawng zuah hi a pawimawh em em a ni. Tin, kan thing kui tiah duh zat azir zelin a len zawng pawh hi hisap mai tur a ni.

14. Land development works in common land.

Land Leveling:

Land leveling emaw grading chu ram/huan chhengchhe lai deuhte siam rema, hai fai a, laih zawl deuhte hi a ni. Ruahtui luang in emaw lei a lak nasat lutuk loh nan te, ram chhunga tui luanna mumal taka sial nan te, ram leilung hnawna tha leh zual zawka vawn him a nih theih nana ram leilung awmdan siam rema, siam that hi land leveling chu a ni.

Land leveling hi MGNREGA hnuaiah chuan mimal tin ram pawh siam rem a thawh theih a, chu chuan ram chhunga irrigation kalpuina tur nasa takin a pui dawn a ni.

Land Leveling hna thawh dan turte:

1. Hna chu tumkhatah ram/huan pakhatah zel thawh tur a ni a; a ram chu a zau lutuk chuan then hrang hrangah 20-30m dan vel zel angah te siamin thawh tur a ni.
2. Ram chu kan siam rem dawn chuan a teh tanna tur felfai takin kan chhin chhiah anga, kan thawh chin tur ram chhung chu then hrang hranga thenin, a then 5x5, 15x15, 20x20m te in kan siam ang, tichuan a chawp te te in rual rem takin kan siam rem thei dawn a ni.

3. Chutianga kan siam rualrem zawh tawh hnuah chuan a ram leilung awmdan chu dumpy level hmangin kan teh anga, kan ziak fel tur a ni.
4. Kan ram siamrem tur kan then darh thliah thliahte chu a ram pian awmdan kan siam fel hnuah contour line siam tur a ni a, chumi siam dan tur chu a ram awmdan a zir zelin contour line te inkar zau zawng siam rem mai tur a ni. Hetiangin:

Slope percentage required	Contour interval
0 – 1	5m – 15m
1 – 2	15m – 30m
2 – 5	30m – 60m
5 – 10	60m – 150m

5. Contour map nena enmil chungin ram leilung awmdan a zirin then hrang hranga siamin, a tha thei ang ber tura irrigation kalpui a nih theihnan ruahman thin a ni.

Category II

1. FARM POND

A hmun thlan dan :

- DOP chu huan khawihmunah pawh siam theih a ni a. Dil in tui a khawl theih zat chu ruah tui tam zawng atanga chhut tur a ni a, huanthlai chawm zo thei tura ruahman tur a ni.
- DOP chu huan thlai hnai thei ang ber, tlawm si leh awlsam taka hman theih tur hmunah siam hram tur a ni.



- DOP laihna hmun chu 2% aiin a awih tur a ni lo.
- DOP laihna hmun chuan a tui dawn khawl na area chu 5ha aiin a zau tur a ni lo.
- DOP laihna hmun chuan tui hip theilo lung chhuat chu metre thum hnuai chinah a nei ngei tawh tur a ni.
- Tui 10cm a sang a hectare khat chawm tur hian 1000cum tui mamawh a ni a. Tui Mamawh zat = Tui in a chawm tur zau zawng x tui in a chawm thuk zawng = 1 hectare x 10 cm = 10000sqm x 0.1m = 1000 cum. DOP dimension tur chu 25m x 20m x 2.5m niin hemi size hian 1000cum tui a khawl thei dawn a ni. He DOP hian 25m x 20m = 500 Sqm hmun hectare khat atang a awih dawn a, hemi avang hian 5% model tih a ni.

DOP siam dan :

- A chung a tar lan tak ang hian a hmun thlan theih ni se.
- A hmun tur thlan fel ah chuan a laih dan tur ruangam fel taka duan ni se.
- Kan lei laih chhuah chu dil ko a atang meter 2 atang a metr 3 a hlaah dah ni se. Hemi hmun awl hi Berm tih a ni.
- Lei laih chhuah chu lei tha a nih chuan huan thlai hmunah theh darh emaw sem rual tur a ni.



Hriat tur tul te:

- Lei nawi tling khawm tur veng turin tui luankhawmna dil hnar te chu tha taka siam leh tih fai tur a ni.
- DOP chu tui luanglai emaw lui luang lai hmunah siam loh tur a ni.

- Loneitu tui lakna engmah dang neilo te chu ngaihpaawimawh hmasak tur a ni.
- Tui dah khawl na atan chuan dil chu thuk apiang hi a tha a ni. Hei hian dil hmun luah a ti zim a thlai china hmun awl a tam phah zawk a ni.
- A chhuat, a bang leh a tui luan chhuahna te chu lung hmanga ven tur a ni a, hei hian lei luangral tur a veng dawn a ni.

DOP Ruahman dan:

Zawhna: Lo neitu huan chu 2 hectare a zau a ni a, thlai chin na atan a tha tak a ni a, thlai chawm khawp tura tui mamawh zat chu engtia tam nge ni ang?

Chhanna :

Huan zau zawng chu : 2ha

Tichuan 1 ha = 10000 sqm tih kan hre bawk a.

Chumi a nih chuan, 2 ha = 20000 sqm

Tui thlai kham khawp 10cm a thuk chawm tur chuan tui 2000 cum kan mamawh dawn tihna a lo ni a, a chhan chu

$20000\text{sqm} \times 0.1\text{m} = 2000\text{cum}$

Tichuan DOP size chu 40m a sei 20m a zau leh 2.5m a thuk a trul dawn a ni.

2. VAWK IN (Pig Shed):

Principles of Design

Vawk In chu a ek leh zun lakkhawm awlsam tura sak nise, a upat dan azirin dah hran emaw huang hran siam emaw ni bawk se duhthusam a ni. Vawk In hi a rimchhiat avangin Chenna In hnung lamah sak thin tur a ni a, chu chuan Vawk In rimchhia lakah min ti ziaawm thei a ni. Vawk In chu hetiang hian pindan thin a ni:

- *Boar box (A Pa huang)* – Hei hi zau tha takin siam a ni a, Chi thlah a ngaih huna a nu nena khung len theihna tura siam thin a ni.
- *Farrowing box (A note huang)* – A pui che vel leh bawk velin a delh loh nan dahhranna tur pindan tha tak siam a ni.
- *Gestating box (A pui rai lai awmna)* – Hei hi Vawkpui rai lai khung hranna a ni a, A No ten Hnute an nghei tantirh, chaw tak an ei tantirh lai vel, ven an la ngaih lai hun vela khung nan hman thin a ni bawk.
- *Finishing box (A no rual awmna)* – Hei hi Vawk no thang lian tawh, buaipui vak ngai tawh lo dah na a ni.
- *Finishing box (A puitling huang)* – Hei hi chu Vawk puitling tawh, hralh rual ni chho tawh ho dahna a ni.

Vawk huang/pindan tinah hian hmun fai lai bik, an mut chawlhna tur te, a Chaw Kuang dahna tur bik te, an zun leh ek thiarna lai tur bik te a awm a. An zun leh ek thiarna lai hmun bik te chu bang ti pawpin tihzawm tur a ni a, chu chuan Vawk In tihfai a tiawlsam bik a ni. Vawk hian hmun thawl tha leh boruak danglam nasa lo (Vawk puitling chuan 15°C aia vawt lo, a Note in 22°C aia vawt lo) an mamawh a.

Chuvangin, Vawk In chu 1.5m chin a sang chu phui takin siam tur a ni a, a chhuat atanga 1.8m-2.0m ah a chung chih tur a ni.

A sak dan tur

Vawk In chhuat chu a zun leh ek paihna corridor lamah 2% in a awn (slope) tur a ni a, chutiang bawkin corridor atanga a zun leh ek thli khawlna hmuna a luanthlakna tur awn zawng pawh 2% tur a ni. An zun leh ek in luanpawh tawna tura siam Compartment bang a kua/kawngkhar siam te chu tihfai lain hawn a, tihfai zawh hnuah khar leh thin tur a ni.

Beneficiaries te chu Vawk In lian tha tak (Vawk pakhat tan 40 Sq.ft vel zel) sa tura fuihin tihphur tur an ni a, a In lian tha chu Vawk tan a tha em em a ni. Vawk In chu chenna In hnung lam, hmun ro tha leh Ni eng hmu tha, thli luankawng mumal taka siam, Leitha khur pahnih siam a, chuta Vawk ek leh Zun te luanglut thei tur a sa turin hrilh hriat tur an ni. Vawk In sakna hmanrua atan chuan a remchang ang apiang (duhthusamah chuan Thing leh a chung atan Di emaw, Buhpawl emaw) a hman theih a. A chaw kuangah an bawh loh nan a chin siam tur a ni a, a Kuang chhuat lamah a chawnawi thuahfai na tur kua/pipe siam bawk tur a ni.

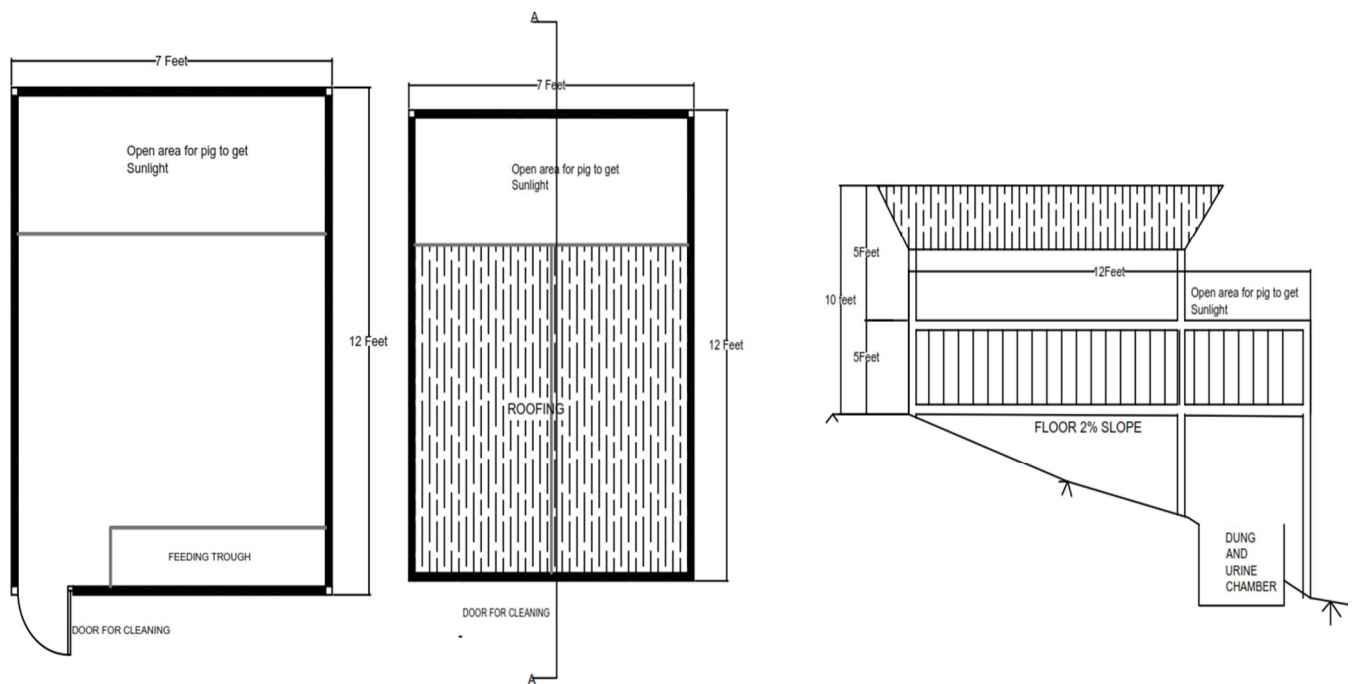


Figure 28: Typical Pig Sty Design for two pigs with floor area of 84 sqft.

3. AR IN(Poultry Shelter)

A hmunhma thlan thu (Site Selection):

Ar In chu enkawl a buaithlak loh nan Chenna In atanga hla lovah sak tur a ni. A hmun chu Tui tlin theihlohna hmun, hmun sang lam a ni tur a ni. A hmun zau lamah chuan Ar vulh zat azirin a danglam thei a. Duhthusam a Ar an tlat theihna tur khawpa hmun zau tha a ni tur a ni a, Ar vulhtu in a duhthusamin a siam thei ang.

Ar Vulhtu in a hriat tur:

Ar 100 zel atan a In len zawng tur chu 7.50 Sq.m (A dunglam 3.75m leh A vang lam 2m) hi a tawk vel a. A dung zawngin plinth level thlengin 30cm a sang, 20cm a chhah in Brick bang rem tur a ni a. Plinth level atanga a chung thlengin Thirlen (wire mesh) in pin tur a ni a, Thirlen inkaih marna turin Brick karah Pillar (Size=30cmX30cm) dah mai tur a ni. A vang lam Bang san zawng chu 2.20m vel ni se, Brick hmangin 20cm a chhahin rem tur a ni. A chung atan chuan Rangva hman mai tur a ni a, Inchhun (roof truss) atan chuan Steel hman tur a ni. A chhuat chu chuan Lungthil chang tha hmangin chhun rual a, a chungah chuan Brick (1:6 Mortar hmangin) rem mai tur a ni.

A sak man:

A chung a kan sawi tak ang Ar In sak man hi Rs 40,000 (Singli) vel a ni a. Unskilled Labour leh hmanraw man ratio chu 20:80 a ni.

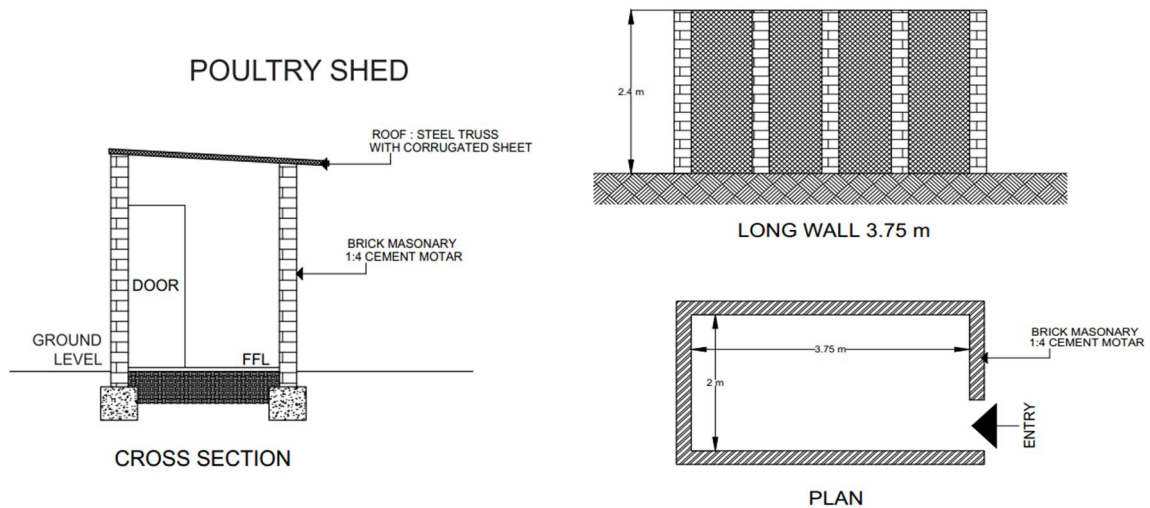


Figure 29: POULTRY SHED

4. BAWNG IN:

A hmunhma thlan thu (Site selection):

Bawng vulhna hmun tur hi a thar sak tur a nih chuan enkawl a awlsam zawk nan Chenna In atanga hla lovah ni thei se a tha. Fur laia tui tlinkhawl theihna tur hmun nilo, hmun sang lamah a ni bawk tur a ni.

Sak dan tur :

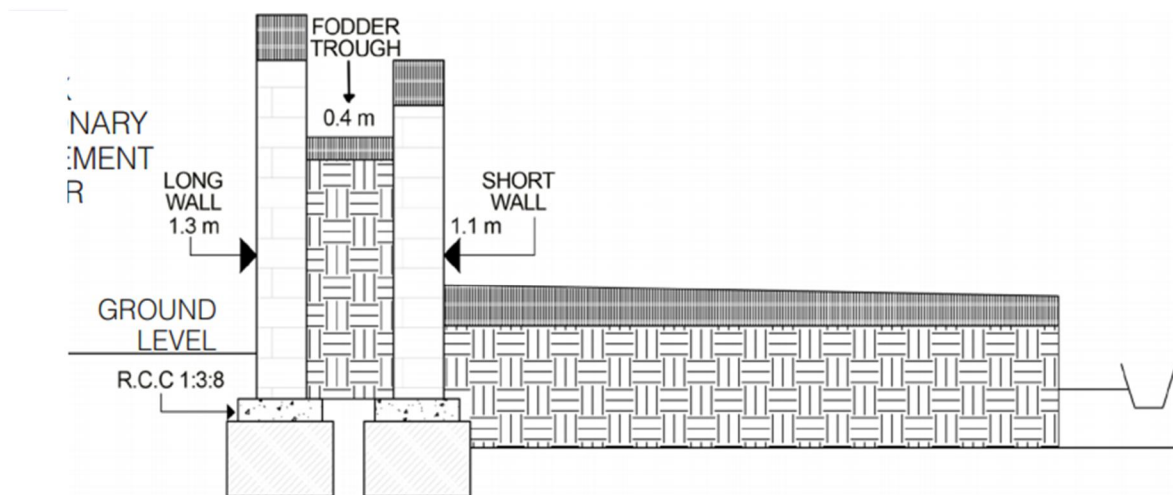
Bawng In zau zawng atan chuan, Bawng 6 zelah 26.95 Sq.m (7.7mX3.5m) a ni a. Bawng chhuat Concrete a chhunah chuan a Chawkuang 1 Cu.m dawng (7.7mX0.4mX0.65m) siam tur a ni a, A zun dahkhawlina tur 250 litres dawng Khur siam bawk tur a ni.

Sum senso ngai zat:

A chung a kan sawi ang Bawng In, a chhuat Concrete, a Zun khawl na leh Chawkuang te hi a siam man chu Rs 35,000 vel a ni a, Unskilled labour leh hmanraw man ratio chu

Bawng Vulhtu hriat tur:

- Chhuat rualrem lo taka awm hi a hrehawm ang bawkin ran tan a hrisel lo a ni. Chuvangin Bawng In chhuat awih (slope) dan pawh hi pawh titoh nuai lovin ngil zaihin a awih tur a ni.
- Chhuat hnawng leh nah chuan Ran an tlu palh thei a, chu chuan hliam na tak, ruh tliak, Thahrui chat, Ruh pelh leh No chhiat (Nau chhiat) thlengin a thlen thei a, chuvangin Bawng In chhuat chu thap deuh hraiha siam tur a ni a, a nal tur a nilo.
- Chinai phul hian natna hrik inthlah pung tur a veng ve thei a ni.



All dimensions in metres

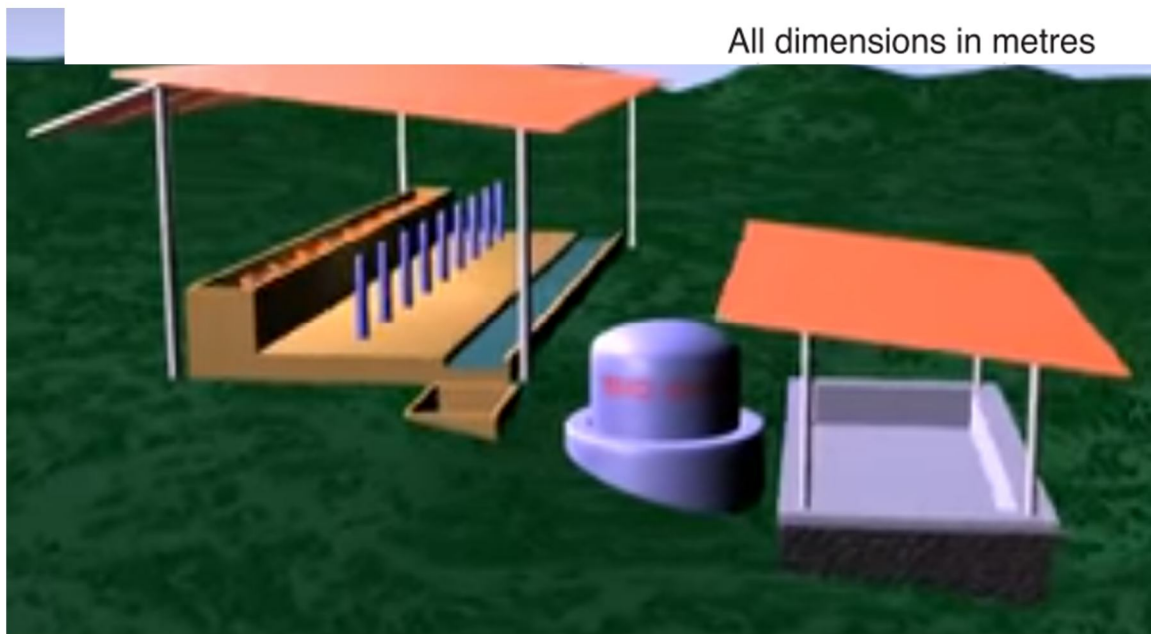


Figure 30 : CATTLE SHED

5. KEL IN

Khawsak harsat deuhna thingtlang hmun thenkhatah chuan Ran te deuh (ruminants) Kel leh Beram te hi Sum lakluhna atan vulh thin a ni a. Central India vela Tribal khawsak harsa ho pheih khu chuan Lo neih aiin Kel leh Ar vulh hi an ei hmuh na ber atan an hmang a ni tih pawh kan hre theuh awm e. Amaherawh chu an Ran vulh te In sakna tur pawisa te an neih loh avangin anmahni hriselna in a tuar a, an damlo reng mai a ni. Hetianga an ran vulh te chenna tur pawh mumal taka an siam theih loh avang hian an ran Ek leh Zun te pawh a lakkhawm hleihtheih lohva, Lo leh huan siamtu te tana Leitha tangkai em em, awlsam leh man tlawm bawh si chu an chan teuh teuh tihna a ni. Chuvangin hetiang Ran vulh te tana In tha leh mumal tak siam sak hi Ran leh mihring tan a hrisel chauh ni lovin, Sum tam tak senga Lei tihthat ngai tur kha man tlawm awlsam tein kan tit ha thei tihna a ni.

A hmun thlan thu (Site Selection):

Kel vulhna hmun atana tha leh thlan dan tur chu a hma lama kan sawi tawh Ar Vulhna hmun nen khan a in ang reng a ni.

Sak dan tur :

Kel 10 zelah 7.5 Sq.m a zau (A dung 3.75m, A vang 2m) hi a tawh viau a ni. A bang chu 2.20m vela sang, Brick hmanga rem, cement Mortar 1:4 hman ni bawh se a tha. A chungah chuan Rangva chih mai tur a ni a, a inchhun (roof truss) atan chuan Thir hman ni bawh se. A chhuatah chuan Lungthil chang tha (Hard Moorum) hman tur a ni.

Sum senso:

Hetianga Kel In pakhat sak man hi Rs 36,000 vel a ni a. Unskilled Labour leh Hmanraw man ratio chu 25:75 a ni.

Kel Vulhtu in a hriat tur:

- Chhuat rualrem lo taka awm hi a hrehawm ang bawkin ran tan a hrisel lo a ni. Chuvangin Bawng In chhuat awih (slope) dan pawh hi pawh titoh nuai lovin ngil zaihin a awih tur a ni.
- Chhuat hnawng leh nalah chuan Ran an tlu palh thei a, chu chuan hliam na tak, ruh tliak, Thahrui chat, Ruh pelh leh No chhiat (Nau chhiat) thlengin a thlen thei a, chuvangin Bawng In chhuat chu thap deuh hraiha siam tur a ni a, a nal tur a nilo.
- Chinai phul hian natna hrik inthlah pung tur a veng ve thei a ni.

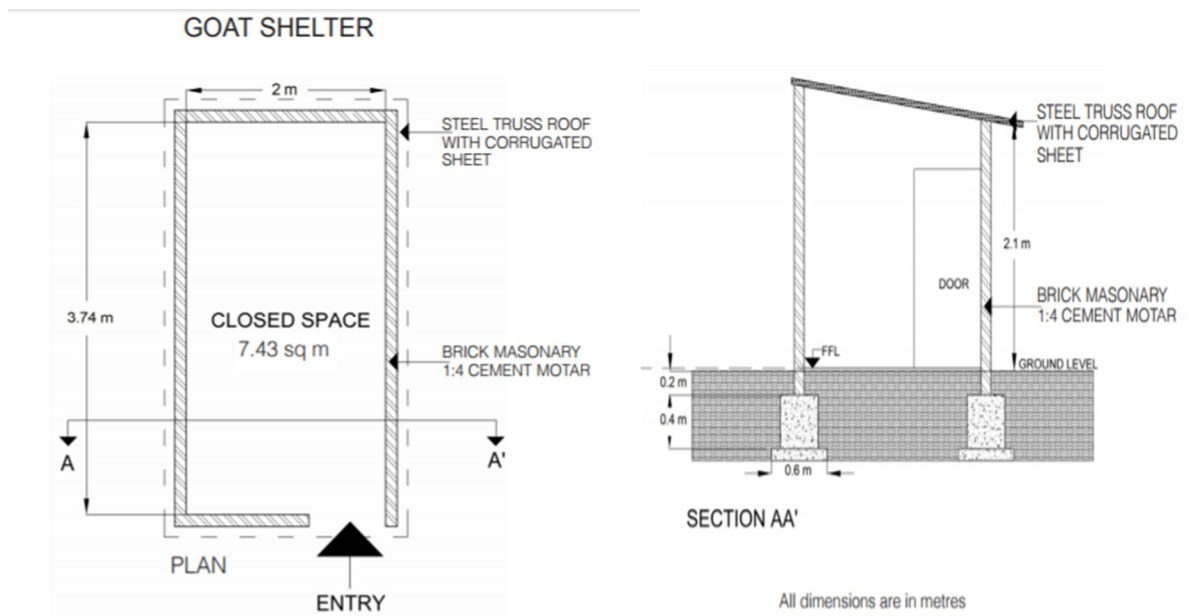


Figure 31: Goat Shelter.

6. Improving productivity of lands of households specified in paragraph 5 through land development and by providing suitable infrastructure for irrigation including dug wells, farm ponds and other water harvesting structures.

Lo neitute agriculture lama hma an sawn theih nana kawng hrang hranga hmalakna zingah tuichhun chhuah (dug well) laih hi MGNREGA hnuaiah hian hnathawh phalte zing ami a ni. Hei hian hamthatna dawngtu chu huan thlai enkawlna kawnga tui mamawh a phuhruk nasa thei em em a, thlai tharchhuah te a tipungin lo nei mite tan thil tangkai leh tha tak a ni.

Dug-well chu lei thuk taka lai thin a ni a, lei hnuaia tui awmna thleng lai thin a ni. 5ft atang 15ft vel bawr hawltlanga laih thin a ni. Lei hnuaia tui tling khawm ami chu tuichhun mawngah chuan lo tling khawmin chu chu thal chhuah mai tawh tur a ni. Tuichhunchhuah lian deuhte chuan tui tam zawk an khuap thei zel a, an tangkai em em thin a ni.

- i) Dug well hi kuta laih tur a ni a, lung ral leh suahdur te nen. Lei vung chu tinin khai chhuah zel mai tur a ni.
- ii) Fimkhur taka hna thawh tur a ni a, khur chhunga awm laia lei chim palh thei tur te ven uluk em em tur a ni.
- iii) Tuichhun chhuah hi 15ft -35ft vela thuka laih tur a ni a, thal lai pawha tui a kang mai loh nan lei hnuaia tui awmna chin thlenga laih tur a ni.

Dug Well siamna hmun tur chungchang:

Tuichhunchhuah chu kan laih hmain Ground Water lam kaihnawih department-ah hriattir tur a ni a, anni lamin zir chiangin a laihna tur hmun tha min kawhmuh thei dawn a ni.

1. Kan tuichhunchhuah laihna tur hmun chu tui chhia leh thli dang luanna hnaiah siam loh tur a ni.
2. Tui lianin a chim chhiar mai theihlohna turah siam tur a ni.
3. Kan hmanna tur hnaih thei ang berah tuichhun hi laih tur a ni.

Dug Well siam dan tur:

Tuichhunchhuah tha tak siam tur chuan uluk taka laih a, a bangah lungrem emaw brick remte a rem chhoh tur a ni. Hetianga a tlang rem chhoh hi “curb” an ti thin a ni. Tuichhun chunglam 3m chin phei chu tui kal tlang mai theihloh turin concrete a siam tur a ni.

1. A tuichhunchhuah mawnga kan lung emaw brick remte chu rem phui tur a nilo va, kar awl te siam tur a ni. Chu curb kar awl atang chuan tui te chu rawn lutin tuichhun chu a ti khat thei dawn a ni.
2. Lei chung lama tui luang leh tui hawkte a luang lut tur a nilo va, chuang chuan tuichhun tlang remna curb chu lei chungah 30cm (1ft) vela sanga rem chhoh tur a ni.
3. Tuichhunchhuah mawng kan hai faina chu tinin kan khai chhuak thin tur a ni. Tui nen a lo in chiah tawh thin avangin uluk taka lakchhuah angai thin a ni.
4. Tuichhunchhuah mawng remna curbing chu a mawng phah aia hniam hret 0.3m (1ft) vel bawrah rem tan tur a ni. A mawngah chuan balu pan deuh hlekin kan chung anga, chumi hnua chuan balu leh lung te dah tur a ni a, hengte hi tui lo thlifimtu atan pawh a hman theih a ni.

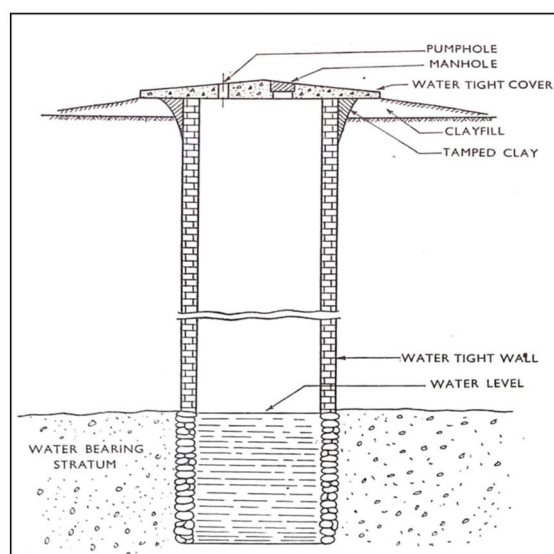


Fig.32. Dug well lem entirna

Category III

1. VERMI COMPOST PIT.

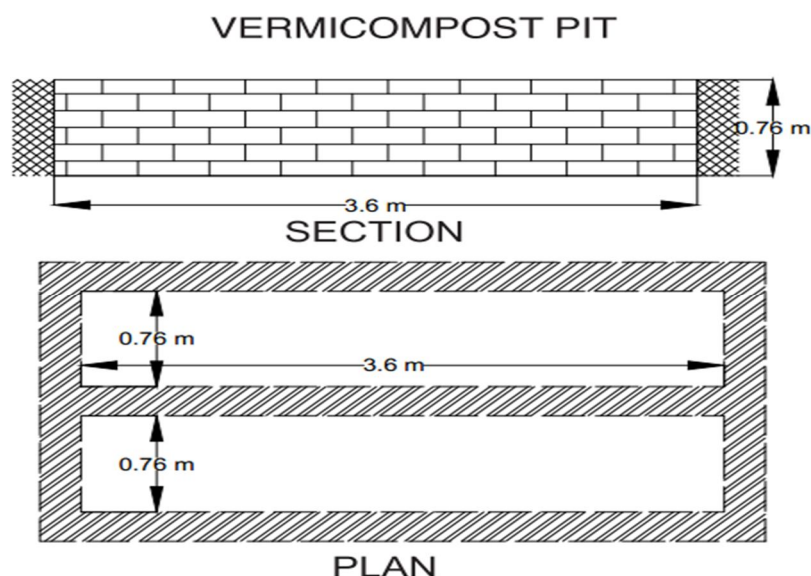


Figure 33: Vermicompost pit

Vermicompost pit pakhat hian Leitha Kg 150 zel a chhuak thei a, chu chu 0.25 hectare a zau chawm thei tawh khawp a tam ani.

A hmun thlan thu (Site Selection): A siamna hmun tur thlan dan turah chuan NADEP in a lo duan sa tawh ang khi a ni.

A siam dan tur: A tlangpuiin Vermicompost pit hi Khur khat, hmun hniha thenhran/pindan a ni a, a Pindan pakhat len zawng tur chu 3.6m X 1.5m X 0.76m (A sei zawng 3.6m, A zau zawng 1.5m leh A thuk zawng 0.76m) a ni. Pindan pahnih te daidan na hi tiphui vek lovin, pindan pahniha an kalkual vel theihna turin Changpat vah tlang theihna tur kua siam tur a ni.

A siam man (Estimated Cost):

Vermicompost pit siam man hi Pindan pakhat ah Rs 9150 hisap a ni a. Unskilled labour leh Material ratio chu 25:75 a ni.

Beneficiaries te tana hriat tur:

- *Changpat chaw:* Thlai thar seng tawhna chuangbang te, Thing hnah leh Ran Ek te hi hi Vermicompost pit atana kan mamawh bulpui ber an ni a. Fu her tawhna fe (Fu-fep) te, Thlai chi hut (chhia), hedge cutting (Pangpar chehruah leh Thing zar thlakna nawi te), Phuai te, Favai te, Ran ek te, Bio-gas plant thli te, Beram, Sakawr leh vawk zun leh ek te, Ar ek (tlem te) leh Thlai rah tawih te te hi Changpat chaw tha tak an ni.

A sawngbawl dan tur (Preparation of Vermicompost bed):

- Step 1: A hnuailam 10cm a chhah chu Favai, Fu-fe leh Buhpawl (Agricultural Waste) ang chi chawhpawlh a chap tur a ni a. Chumi chungah chuan Lei phul chhuak vekin Tui a tih huh thet thet tur a ni.

- Step 2: Thlai hnah leh rah bangnawi (Organic Waste) te chu Bawng Ek leh Tui nena inchawhpawlh tawh chauh a siam tur a ni. Bio-gas plant atanga tui/thli lo chhuak hi Vermicompost siamna atana pawlh tur tha berte zing a mi a nih avangin hmuh mai tur a awm chuan tih tel ngei ngei tur a ni. Ni 4 atanga Ni 5 dan zelah vawi 2-3 chawhlet thin tur a ni.
- Step 3: Khur ah chuan Changpat dahluh tur a ni a, Organic Waste chawhpawlh chuan vur tur a ni. Duhthusamah chuan, a chaw Kg 400 zelah Changpat 2000 dah tur a ni.
- Step 4: Buara in khuh tur a ni a, a khat tawkin Tuia tih huh reng thin tur a ni. Tichuan ni Sawmruk (60) hnuah chuan thil chawhpawlh te kha Vermicompost ah an lo chang tawh ang.
- Step 5: Vermicompost chu lakchhuaha, Sarang/Thehretpuan chung a chap darh a, Darkar 2-3 chung pho ro tur a ni. Tichuan Changpat te chu a hnuai lamah an lut anga, changpat awm lohna a chunglang chu lakkhawm tur a ni. Changpat te chu uluk taka lakkawm leh bawh tur a ni.

Fimkhurna tur te (Precautionary Measures):

- Khur chu a hnuai lam/mawng lamah Tui a lut thei a, a huh leh lutuk emaw, Tui a tam lutuk emaw a nih chuan Boruak tha a awm lo anga, chu chuan a chunglam boruak nihphung pangai tur chu Acid emaw Base level (pH) ah a siam anga, Changpat rihna te ti tlahniamin an nih tur ang a ni thei lo thin a ni. Khur chhunga Tui lut tur ven nan hian Tuiluankawr tha tak siam tur a ni a, tin, a khur ko tihsan hret emaw pawh a pawl lo ani.
- Khur chu Fanghmir te, Tlumpi te, Tit/Ketaminu te, leh Utawh te, Sazu te, Zawhte te, Ui leh Ar te an luh lohna tur leh an tihchhiat loh na turin ven tur a ni.
- Bawng Ek tharlam chuan Lum leh Sa a siam theih avangin Mit lawnga hmuh theih loh Rannung (Micro-Organism) te tan harsatna a siam thei a, hman miah loh tur a ni.

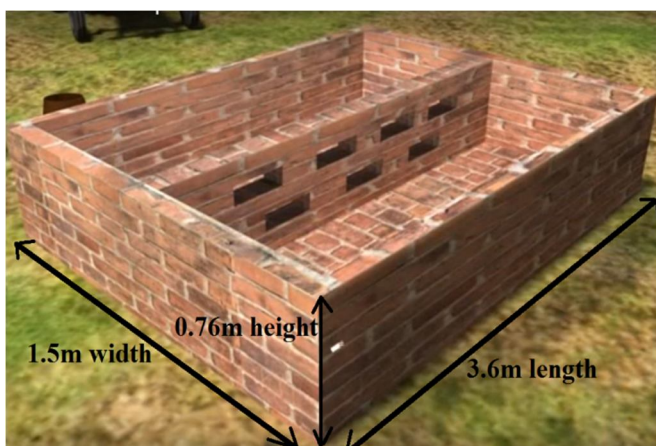


Figure 34: Vermicompost pit.

2. NADEP COMPOST PIT:

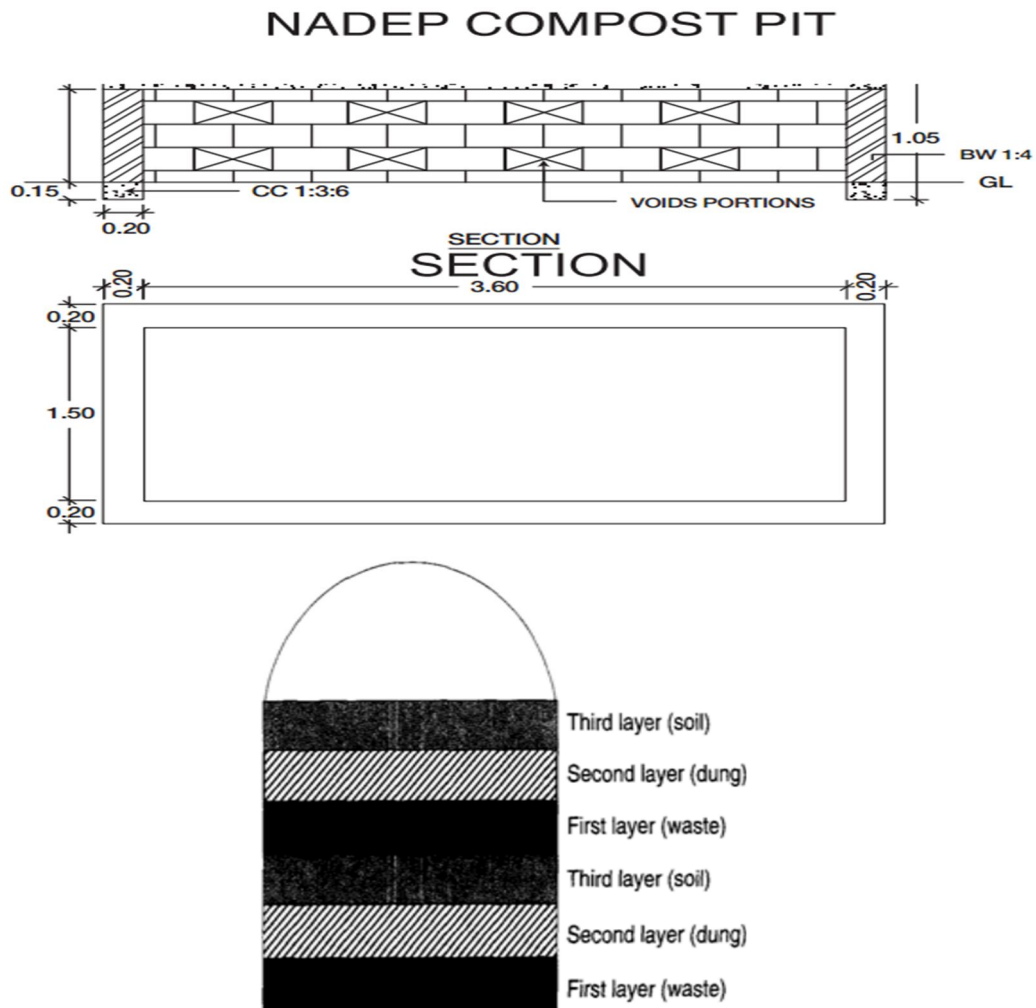


Figure 35: Nadep compost pit

Site Selection:

- A awmna hmun chu Tui awlsamana hmun leh Thlai hnah leh hnim hnah tawih thei te, Ran ek leh thli awlsam taka hmuh theihna hmun a ni tur a ni.
- Ram buai leh midang hmun hma nilo, A ram neitu emaw Gram Panchayat/ Village Council emaw ten an remthipuiina hmun a ni tur a ni.
- Ruah sur lai leh Fur laia Lei chet theihna hmun, hmun nghet lo a ni tur a nilo.

Design and Estimate for NADEP Pit:

- NADEP Pit len zawng chu a len zawng 3.6m X 1.5m X 0.9m (A dung x A Vang x A san zawng) a ni tlangpuia, a bang chu Brick (Leirawhchan) nghet taka rem a ni a, a tawih hma theih nan boruak mumal taka dawng thei a ni bawk tur a ni.
- Estimated cost: NADEP Pit siam nan hian Rs 8000 vel a ngai a. Unskilled Labour leh Material Ratio chu 25:75 a ni.

Instructions for the Beneficiaries:

- Huan thlai rah leh hnah tawih (A ro emaw a hring emaw) Kg 1300-1500 lak klhawm tur a ni a, Bawng ek emaw Biogas ekchhia emaw Kg 100, Lei dip tha Kg 150 – 180, leh Tui Litre 1200-1400 te chawhpawlh tur a ni.
- Khur Hnawhkhah dan(Pit Filling): A lem a lantir ang hian Agricultural waste, Bawng ek leh Lei dip te hi a indawt dan zel hian a inchhawk in rem chhoh tur a ni. Ni 20 atanga Ni 30 ah chuan a lo tawih tan tawh a. Chutiang hunah chuan nem muk a, a chung a sawi taw hang tho khian hnawh khah leh vat thin tur a ni. Hetiang hian thla thum chhung thleng chu a tih theih a. Ni 7 atanga Ni 10 inkar vel apiangin Tuiin tih huh thin tur a ni.

Hriat tur pawimawh te:

- A hu kalral nasa lutuk tur ven nan Di emaw, Buhpawl emaw in a chung siam tur a ni.
- Khur chu hnawh khah hmain a chung lam bang chu Bawngek tuia zut chhuah vek tur a ni. Chu chuan a ei tawih tu tur hrik te inthlahpun ns tur a pui dawn a ni.
- Engvang mahin khi (Cracks) a awm tur a nil ova, chutiang a lo awm a nih chuan Tui nena chawhkawi in char phui vat thin tur a ni.
- Khur chu vawi khat chhilh ah (Ni khatah) chhilh khah nghal tur a ni a, Chhilh khah chhung hi Ni hnih (Darkar 24) aia rei a ni tur a nilo.

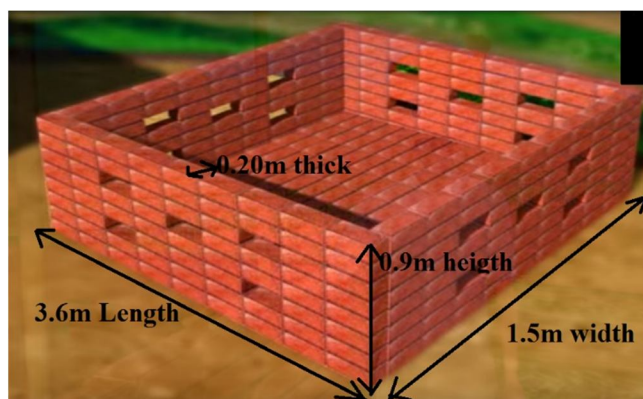
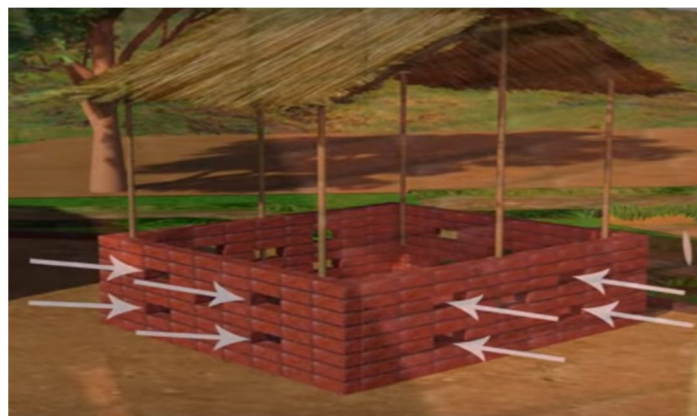


Figure 36: Nadep compost pit.



3. CONSTRUCTION OF CATTLE TROUGH:

India rama loneitute sum lakluhna berte zinga mi chu ran vulh hi a ni a, Mizoramah pawh hei hi kan kalpui nasat ve hle tawh avangin ran vulh te tana tuiinna tha siamsak hi thil tihmakmawh a ni. MGNREG Scheme ina Permissible Work-a a dah tel niin thingtlang hmasawna ruhrel tha tak a ni.

A SAK DAN TLANGPUI TE:

- Ran tuipekna hi bawngte, lawite, kel te, sial te, beram te tana siam deuh bik a ni a, a dung 5m, a vang 2m niin 0.6m a sanga saim thin a ni
- Foundation hi tuipekna aiin kil tinah 0.3m in tih zau vek hret a ni a, hei hian ran tuipekna rihna chu a lo swem darh dawn a ni.
- Foundation hi 0.3m a thuka laih tur a ni

- Foundation tan hian PCC (1:5:10) hman tur a ni a, hei hi tuipekna chhuat tur a ni nghal dawn a ni.
 - Brick rem hi cement mortar (1:6) hmanga rem tur a ni
 - A chhuat hi PCC (1:4:8) 0.075m a chhah a khuh tur a ni
 - Brick rem pawnlam leh a chung zawl hi 0.2m a chhah in cement mortar (1:6) a first coat plaster tur a ni a, (1:4) in second coat leh tur a ni
 - Brick rem chunglam hi 0.12m a chhah in cement mortar (1:5) a first coat plaster tur a ni a, (1:3) in second coat tur a ni
- Water trough plan leh a lem a hnuai rawn tarlan a ni-

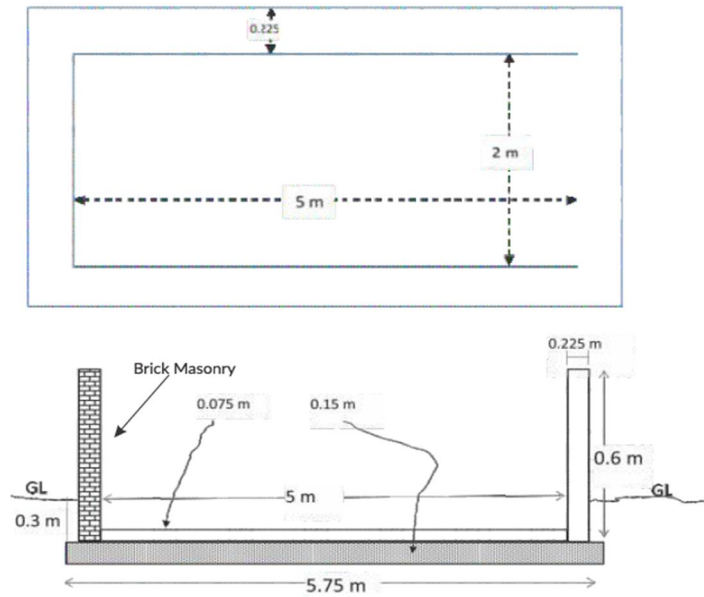


Fig.37. Plan an side cross section of water trough

CATEGORY-IV

1. CEMENT CONCRETE DRAIN:

Cement Concrete Drain chu concrete a siam tuihawk luanna a ni a. Pucca drain tih a koh a ni thin bawk.

HNA TAN HMAA HRIAT HMASAK TUR PAWIMAWH TE:

- Hna engpawh thawh dawnin survey hmasak phawt tur a ni
- drainage siam dawn chuan a siamna tur ram a awih leh awihloh te, a tui haw tur a tam dawn leh dawn loh te, a tui haw tur a chak leh chakloh te thlenga hriat hmasak phawt thin tur a ni.
- Kan drainage siamna tur ram a lo awih tawk loh chuan tui luang thei lovin a lo tling ta zawk thin a ni.
- Drainage pangai laih ah chuan a sir leh lam leh lam tih awih deuh a ni thin a, hei hian tui luan chak vanga a tlang sir eiral a lo veng thin a ni.
- Cement Concrete Drain ah erawhchuan concrete a siam a nih dawn avangin tuiina a eiral venthawn vak ngai lovin 'U' anga siam a ni mai zel a ni.
- Design uluk tak leh estimate mumal taka siam tur a ni a, uluk loh chuan drain kha a thawh dan tur angina a thawkthei lo thin a, tui a dawn tur ang tak dawng tha thei lovin kawngpuiah tui a lut let leh thin a ni.

CEMENT CONCRETE DRAIN SIAM HUN TUR:

- Cement Concrete Drain hi brick emaw cubic lung emaw cement-a plaster hmanga siam emaw, RCC (Reinforced Cement Concrete) a siam thin a ni.
- A siamna hmun a zirin, PCC emaw RCC emaw hman thin a ni.
- A siamna hmunah tui luang tur a tam vak loh chuan PCC kan tih a siam mai a pawl lova, tui luan tamna hmun a nih dawn erawh chuan RCC-a siam hram thin tur a ni.
- RCC drain siam dawn reng reng in, a drain aia lian hreta laih tur a ni a. Concrete la chhun leh chauh tur a nih avangin hetiang a tih thin hi a ni.
- He drain ah hian kawngpuia tui a luanglut thei vek tur a ni a, chu tuihawk chu RCC drain hian Culvert ah emaw a pahchhuaktei tur a ni.

CEMENT CONCRETE DRAIN SIAM DAN TUR:

- Drain siamna hmun tur chu uluk taka tihfai tur a ni
- Drain design pian milin lei laihchhuah tur a ni
- A foundation tur siam hmasak a, Cement concrete chhun luh tur a ni
- Reinforcement a ngaih dawn chuan rod uluk taka pah tur a ni a, chutah chuan cement concrete chu chhun luh tur a ni



Fig 38: CONSTRUCTION OF PUCCA DRAIN



Fig.39: CONSTRUCTION OF PUCCA DRAIN

2. BIO DRAINAGE:

Bio drainage chu lei hnuai tui (groundwater) tam lutuk tur thlai chikhattui hip chak tak (high transpiration plant) hmanga hip chhuahsawina a ni. He thlai hian a zungatanga a tui hip chhuah za a sawmriat hi boruakah a paihchhuak leh thin a ni.

A TANGKAINA:

- Lei hnuai tui a tam lutuk hian thlai tlangpui zung aia sangin tui hi a rawn chho thin a, chutuichuthlai te chuanhak in an lo thihphahhial thin a ni.
- Chu maibakah he tui hian lei al (salts) thlaitanathaloemem a keng thin a, chuchuthlai ten an zungah an lo hip a, an that tur angin that theihlohmaibakah an lo thihphahhial ta thin a ni.
- Thlaichikhat Eucalyptus kan tihmai thin hi Bio drainage tanathatakmai a ni a, Haryana-a an leiatuitlingnasalutuk (waterlogging) tihlem nan pawh an lo hmang tawh nghe nghe a ni. An project an kalpui vang hian Wheat a let thum leh point li (3.4) a tam in an lo thar phah hial thei ta a ni.
- Bio drainage hian leiatui hip chhuah chak leh lei al tur a ven mai bakah hian boruak a siam tha hle a, boruaka tui a let tir hnem avangin khua a lo hnawnphah a, hei hi thlai tan a tha em em a ni.
- Mihring nunna atana pawimawh em em Oxygen a pe chhuak tha hlebawk a, Bio Drainage plantation hi kalpui a pawimawh hle a ni.

A SIAMNA HMUN TUR:

- Hmun tina siam tur a ni lova, waterlogged areas (tuiin a chiahpiah ram) kan tih ang ah chauh hian hman thin tur a ni.
- Waterlogged areas ni ve loa siam chuan leia tui (moisture) a lo hip ral theiin leilung tan a lo paw ve thei a ni.



Fig.40 Bio drainage

3. CONSTRUCTION OF INTERMEDIATE AND LINK DRAINS:

Intermediate drain chu field drain leh sub-main drain emaw main drain emaw atanga tui luan penna a ni.

Field drain chu ram atanga tui chuangliam luanchhuahna a ni a, main drain chu link drain emaw field drain atanga luanchhuahna drain a ni.

Link drain chu drain pakhat atanga drain danga tui luan chhuah theih nana a zawmtu drain siam hi a ni.

HNA TAN HMAA HRIAT TUR PAWIMAWH TE:

- Drain siam dawn reng reng in design awmsamila siam zel tur a ni
- A siamna ram a zirin leh a siamna lei a zirin a pian a danglam ve thei a ni.
- Intermediate drain leh link drain hi lei laichhuah a siamrem atanga siam a nih tlangpui vangin a sir lehlam lehlam uluk taka tih awih ve ve tur a ni. Hei hian tui luang chak ina a eichhiat tur a venga, drain chu a lo daihreiphah thin a ni.

SAMPLE ESTIMATE FOR CONSTRUCTION OF INTERMEDIATE AND LINK DRAIN									
Sl. No.	Description of work	Unit	Nos.	Length	Breadth	Depth	Qty	Rate	Amount
1	Earthwork Excavation for drainage	Cum	1	10	(3+1)/2	1	20	190	Rs.3800

4. CROSS BUND:

Bund hi tuihawk ilo dan nana lei tian a ni a, a hmanna hmun a zirin a hming a danglam ve thei a ni. Tuilung te leh tuilianvel a lo awm palh ven nan a tangkai hle bawk a. Tlang ziarang mila bund kan siam thin hi contour bund a ni a, heng bund hi siam a remchanmailoh in emaw a tlang pang a lo awih hret in Cross bund hi a aiah siam thin a ni.

A SIAM DAN TUR:

- Cross bund hi contour bund bulahemaw siam tel thin niin, contour bund a dung zawnga an inkarhlatzawng 10m vel a nih in, cross bund hi a inkarah5m danah 2.5m a thuiin siam ve thin a ni.
- A hnuai chiaha cross bund dang nana an inkar hlatzawng hi 2-5m a ni tur a ni.
- Hetianga kan siam hian a bund chungakhur kan laih hi 0.8m a zau leh 0.4m vel a thukalah thin niin, thing pawhphuntel thin a ni.

A TANGKAINA:

- Hetia uluk taka cross bund kan siam theih chuan tuilung chak lutuk tur contour bund ina a lo dan sen loh chu a lo dang chat ve dawn a ni. Hei hian tlang leilung vawngtha in lei tha tam takluangral tur a veng dawn a, tuilianlakah a ruama awm ram a humhim bawk dawn a ni.

SAMPLE ESTIMATE FOR CONSTRUCTION OF CROSS BUND									
Sl. No.	Description of work	Unit	Nos.	Length	Breadth	Depth	Qty	Rate	Amount
1	Earthwork Excavation for burrow pit	Cum	1	2.5	0.8	0.4	0.8	192	153.6
2	Breaking of molds for construction of cross bund	Cum	1	2.5	0.8	0.4	0.8	192	153.6

5. **DEEPENING AND REPAIR OF FLOOD CHANNELS:** Tuilian kawng emaw tuikwang tiha sawi mai thin 'Channels' hi ram hmun hrang hrangah siam a lo ni tawh thin a, nimahse enkawl uluk loha a awm thin avangin lei ten a hnawh khat emaw, hnim leh hlobet ten a khuh vek emaw, a lo chhia emaw nasa hle tawh thin a ni. Hetiang channel te hi khaw then khata tui a lo len thut palh a tui luanral tirtu te an nih avangin ngaihsak a ngaih pawimawh an ngai hle a ni. Heivang hian field channel main channel a zawm leh tute hi siam that an ngai a ni.

A SIAM DAN TUR:

- Channel thar siam tur a nihloh avangin design thar that leh a ngailova, channel awmsachu a tira a design anga siamthat a, laih thuk ngai te chu laih thuk leh maizawktur a ni.
- NREGA guidelines tharah chuan main channel laih thuk zual hi metre khatah Rs. 180 a dah a ni a,
- Field channel tan vet hung chuan metre khatah Rs. 30 a ni ve thung a ni.
- A pahnih hian labour to material ratio hi 100:0 a ni tur a ni.

SAMPLE ESTIMATE FOR DEEPENING AND REPAIR OF FLOOD CHANNELS									
Sl. No.	Description of work	Unit	Nos.	Length	Breadth	Depth	Qty	Rate	Amount
1	Earthwork Excavation for desilting of existing main channel	Cum	1	10	(3+1)/2	1	20	180	Rs. 3600

6. **DIVERSION CHANNEL:**

Diversion Channel chu tuikwang chikhat, tuilen thut a tui tam lutuk tur kalkawng thar lo siamsak thei siam chawp hi a ni a, khaw chungah siam a ni tlangpuia, hei hian khawchhunga tuilian tur a venghim dawn a ni.

HNA THAWH TAN HMAA HRIAT TUR TE:

- Diversion channel hi enkawl uluk a ngai hle a, a design tirh atangin uluk taka design tur a ni
- Channel chu a thuk tawh loh emaw, a luanna tur a awih tawh loh chuan tui chu luang chak thei lovin a tlin phah thei a, hei hi mihring tan a pawh thei hle a ni.
- Enkawl uluk loh chuan khuareiah lei te lo inhnawh in, hnimbuk te lo to in, tui haw tlang theihloh in a awm thin a, chu chu tui lo len in a pawh thei hle a ni.

A THATNA TE:

- Diversion channel siam leh enkawl uluk chuan tuilian tur a veng a ni.
- A tui ken chu a luan kawnga awm hmun

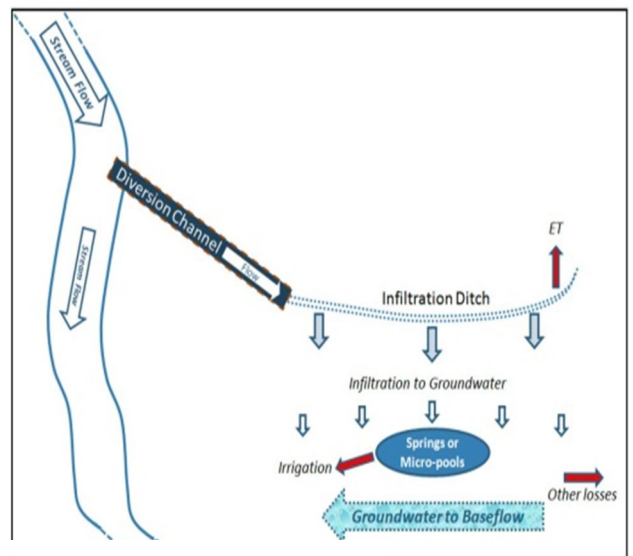


Fig.41. Diversion channel

dang tui vanna tan tui lakna tha tak a lo ni ve thei bawk a, chuvangin a siam leh a enkawl uluk hle a ngai a ni.

7. DIVERSION WEIR:

Weir chu tuiluang kaltlanga danna sima, tuiluang level tihsan nan emaw a siam thin a ni. Cement concrete emaw thing emaw hmanga siam theih a ni.

A TANGKAINA :

- Diversion weir bikah chuan, tui san zawng kha tuilian emaw vangin weir aia a lo san hunah tui chuangliam chu hmun dangah a kaltir ta thin a ni.
- A tui kaltir tam zawng chu a tui rawn luanglut a zirin a ni a, tuilian a ven mai bakah ram emaw huana tui pek nan a tangkai hle a ni.

A SIAM DAN:

- Diversion weir siam dawn hian design ulk hle tur a ni.
- A siamna hmun tur tui luanna aiin a chhuat a zau tur a ni.
- Lei chang emaw thlen hma chu uluk taka khur laih tur a ni.
- Chuta tang chuan RCC a san awm tawk vela chhun a, tui luanna kam sir ve ve a innghat thei tura siam tur a ni. Hei hian weir siam chim mai tur lakah a veng dawn a ni.
- Tui weir atanga luang chhuak in lei a den chhiat mai loh nan apron RCCa siam ve tur a ni bawk a ni.



Fig.42. Down Stream of the Diversion Weir

8. PERIPHERAL BUNDING:

Peripheral bund chu bund ramri a siam thin a ni. Contour bund te angin tlang ziarang (contour lines) zul zuia siam a ni ve chiah lova, ramri a siam a ni tawp mai zel a ni.

PERIPHERAL BUNDING SIAMNA HMUN TUR TE:

- Ramri hung nan a tangkai hle a ni.
- Ruahtui in emaw thli in emaw lei a eiral tur (erosion) lakah ram chu a veng tha hle a ni
- Ruahtui tlemna rama tih tur a ni a, ruahtui tamnaah erawh chuan bund hi ruahtui ina a tihchhiat mai a hlauhawm avangin tihloh a finthlak zawk a ni.
- Ram 5% tal hi bund hian a awm ve avangin thlai chinna atan a theih lova, chuvangin ram zau tha taka tih a fuh a ni



Fig.43. Peripheral bund

PERIPHERAL BUNDING TANGKAINA TE:

- He hnathawh avang hian kum tinin lei tha 25-162 tonnes/hectare zet a tam eiralna lakah a chhanchhuah theih a ni.
- Lei thatna a vawng tha in, thlai pawh tam tak a thar phah theih a ni
A hnathawh dan turah hi chuan, bund dang te nen danglamna a awmlo a ni.

9. RESTORATION OF PUBLIC INFRASTRUCTURE:

Ram lo hmasawn zel theih nan MGNREGA chuan khawtlang hmasawna ruhrel hrang hrang enkawl hnathawh hi permissible work ah a dah a.

SANITATION: Vantlang zunin leh ekin tha hian khawtlang thianglimna a hril tam hle a, hmun thenkhatah zun leh ek thiarna tha a awm loh thin leh a awmsa te pawh a that tawk loh thin vangin khawtlang pawh a lo thianglim theilo a. Hei avang hian khawtlang hriselna pawh a tlakhniam phah thin a ni.

Zunin leh ekin uluk taka enkawla a siamthat hna tha tak leh fel taka thawh hi MGNREGA chuan permissible work hnuaiah a lo dah tel a ni.

ROADS: Kawng hi ram hmasawna intanna tih in a sawi loh theih lova chuvangin khaw tinin kawng tha tak a neih chu thil pawimawh tak a ni. Khawchhung kawng siamthata enkawl te hi MGNREGA permissible works ah a tel bawk a ni.

Heng pahnih te bakah hian rikrumthil laka invenna invenna tam tak Flood channel laih that te leh a venthat hna te, Self Help group tana building sak sak te, Anganwadi centre sak te, playing field sak te a huam tel bawk a ni.

10. SPURS AND TORRENT CONTROL MEASURES:

Spur chu lui kam atanga tui rawn luang lut chak lutuk ti muang a, lei luangral nasa lutuk tur leh lei tuiin a rawn ken te lo dang khawl tura thing emaw hmanga kan siam thin hi a ni. Lui tui luang ral chak lutuk tur chu a lo dangchat a, chu mai bakah lui kalkawng mamawhna angina a her danglam thin a ni.

A HNA THAWH HMAA HRIAT TUR TE:

- Hna thawh tan hmaiin a lui len zawng te, a tui luan chak zawng te, spur lenzawng tur te, spur hawi zawng tur te, a kamsir chak tawk leh tawk loh te uluk taka survey phawt thin tur a ni.
- A planning leh a hna thawh tan chu Water Resource Department kutah a awm tur a ni.

A SIAM DAN:

- Spur chu cantilever retaining wall anga design tur a ni a, tui luang mai bakah leinawi lo dangchat tura hisap tel tur a ni.
- Uluk taka siam theih chuan tui ringawt dang tur a nih chuan an len zawng a let hnih atanga hnih leh a chanve thlenga thui tui pawh an veng hnehsawh thei em em a ni
- Weir bula siam hian tui luang dam tak a siam thei a, hei hi tui len velah pawh a tangkai hle a ni.
- Spur siamna chhak lamah bund siam ve tur a ni a, hei hian tui a lo len tum a tuiina a chim mai tur lakah a veng dawn a ni

11. STRENGTHENING OF EMBANKMENT:

Lui kam a lo ngheh zawk theih nan lei hmanga tih ngheh a ni a, he lei hi uluk taka tihmuka tui luang ina a tihchhiat mai mai loh nan siam tur a ni.

A HNA THAWH HMAA HRIAT TUR TE:

- Hna thawh tan hmaiin a lui len zawng te, a tui luan chak zawng te, a kam sir ngheh leh ngheh loh te uluk taka survey phawt tur a ni

- Lui chu a len vakloh emaw a kamsir a ngheh that chuan lei hman tam vak a ngai dawn lova, nimahsela a lui a len a a kam sir a ngheh loh chuan uluk taka design a ngai thung dawn a, lei pawh mamawh hnemin uluk taka tih awih a tih muk tur a ni.

A SIAM DAN:

- Lei chu a lakna hmun atangin lui kam sir ah chuan vur tur a ni
- Lei vur hi 15-23cm a chhah danah zel tihmuk zel tur a ni
- A lei vur pah hian a awih dan tur ang mila siam zel tur a ni
- Lei hman a chak that loh chuan lung hmuh theih awlsam rem tel a tha zawk a ni



Fig. 44.

12. CONSTRUCTION OF DRAINAGE CHANNEL:

Channel chu Gravity hmanga hmun sang zawk atanga hmun hniam zawka tui kal theih nan a tui kuang siam hi a ni.

A PAWIMAWHNA TE:

- Rama tui tam lutuk luan chhuah nan a tangkai a ni
- Rama tui pek nan a tangkai a ni
- Tui lo len thut palha tui hmun danga luanchhuahtir nan a tangkai hle a ni
- Tui tha neilo te tan tui lakna tha tak a ni



Fig. 45

HNATHAWH HMAA HRIAT TUR TE:

- A tui lakna hmun tur a that tawk leh tawk loh te, a ram awih that tawk leh tawk loh te, tui a luan that theih dawn leh dawn loh te uluk taka survey phawt tur a ni
- Engineer in uluk takin a design tur a ni a, a tlangpuiin trapezoid anga siam thin a ni
- A kam sir te chu a awih deuh in a nghet tha hle tur a ni a, hei hian tui luang ina a sir a eiralna lakah a veng dawn a ni
- A thuk zawng hi tui lak tanna aia a chhuahna a hniam zawk theih tur mila design tur a ni

A SIAM DAN:

- Uluk takin a laihna hmun tur te chu chhinchhiah phawt tur a ni a, hei hian a hnua hnathawh a ti awlsam dawn a ni
- Design ang mila laih tur a ni a, tui lo len thut thulha inven nan a thuk dan tur pangai aia athuk hreta laih tur a ni (free board 30cm vel dah tur)

- Lei laih chhuah chu channel kam sirah vur zel tur a ni a, he lei hi tihmukin, lehlam lehlamah bund atana hman zui tur a ni
- Channel sir laih awih chu uluk taka tihmuk tur a ni a, hei hian tui luang ina a lei eichhiatna lakah a veng nasa hle dawn a ni

13. ANGANWADI CENTRES (AWC): Anganwadi Centre te hi naupang te tana zirna hmu tha tak a ni a, hei vang hian an zirna hmun tur siam that pawh hi a pawimawh hle a ni.

HNATHAWH HMAA HRIAT TUR TE:

- Ministry of Women and Child Development chuan Anganwadi reng rengah nu leh naupang tan thutna hran vek awmin, choka te, eiturve dahna te, zun ek thiarna te, naupang infiamna 600sq. ft vela zau thlengin a awm vek tur a ni a ti a ni
- GP in AWC lian zawk a siam duh a nih pawn a siam thei a, nimahse a siamna man chu guidelines a para 7 a zawm a ngai thung a ni
- Building chu GP kutah a awm anga, anni chuan a enkawl hna pawh an thawk nghal dawn a ni
- Contractor reng reng ruaih phal an nilo a ni
- Job Card Holder te chiah in an thawk thei a ni

HNA THAWH DAN:

- MGNREGA-a AWC sak hna zawng zawng hi District plan ah a lut vek tur a ni
- GS leh GP ina sak remtihna an pekchhuah hunah JE in electronic estimation a siam tur a ni
- Estimation a siam zawhah hian Technical Sanction a chhuak anga chumi hnuah AS/FS pawh a chhuak ve leh dawn a ni
- State sawrkar in a Implementing Agency chu a thlang tur a ni
- Work ID hran zel AWC te chuan an nei dawn a ni
- Mate chuan hnathawh a vil naah Muster Roll leh attendance a lo enkawl dawn a ni
- Hnathawh hmanrua semchhuah chu PIA mawhphurhna a ni
- Kartin measurement lak a ni anga, TA/JE chuan uluk takin Measurement Book ah a lo entry zel dawn a ni

14. VILLAGE HAAT: Village Haat tih chu thingtlang bazaar tihna a ni. Thingtlang thenkhatah chuan an thlai thar te hralh chhuak thei turin khawpui bazaar a phochhuah hi thil harsa tak a ni thin a, a kalna kawng in a zir loh vang emaw, a bazaar hmun chu a hlat lutuk vang emaw, lirthei kalna remchang mai a awm thin loh vang te emaw hian an ni tlangpui thin a ni. He harsatna su kiang tur hian MGNREGA chuan hmalakna chak tak siamin thingtlanga bazaar siam chu tulin a hre ta a, hei avang hian, loneitute chuan an thlai thar te chu awlsam takin an hralhchhuak thei tawh dawn a ni. Chu mai bakah, a mipui te tan pawh chawhmeh leina tlawm zawk a nih theih dawn avangin a tangkai lehzuah hle dawn bawk a ni.

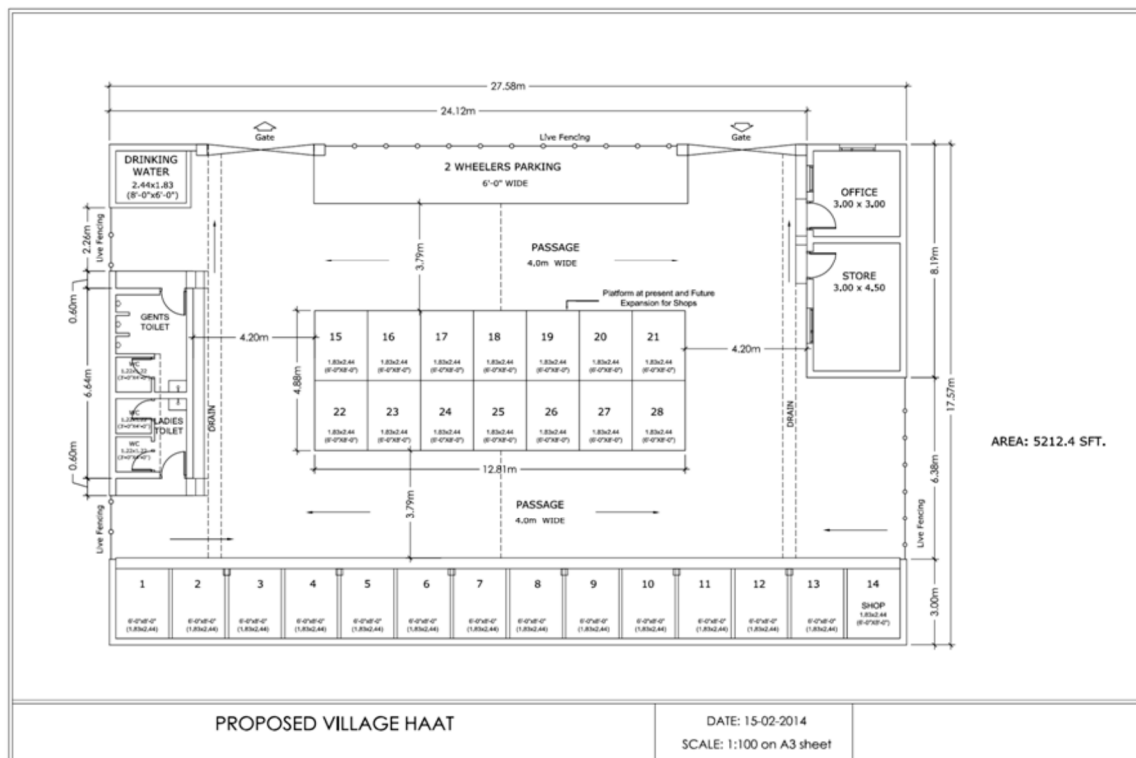
A SIAMNA HMUN TUR:

- Village Haat hi haat awm tawh sa na khua emaw block emaw a siam belh leh hi phal a ni.
- A siamna hmun tur ram hi GP emaw sawrkar enkawl a ni tur a ni

VILLAGE HAAT DESIGN-A AWM TUR TLANGPUI TE:

- Dawhsan hlang emaw chungkhuh nei emaw a ni tur a ni
- Hmeichhia leh mipa tan zun ek thiarna hrang a awm tur a ni
- Tuichhe paihna tha a awm tur a ni
- Office block a awm tur a ni
- Bawlhhlawh paihna tha a awm tur a ni
- Bungrua leh thlai dahna lian lemlo tha a awm tur a ni
- A hmun leh a vel hungna a awm tur a ni
- Lirthei dahna hmun a awm tur a ni
- Ran vulhte tan tuiinna tur a awm tur a ni

A hnuai drawing hi village haat plan awm dan tlangpui chu a ni:



15. FOOD GRAIN STORAGE STRUCTURES:

MGNREGA chuan National Food Security Act 2013 (20 of 2013) tlawh chhanin khawchhungah thlai thar dahthatna godown 250MT leh 500MT dawng thei siam hi a remti a. He godown hi loneitute tan chuan a tangkai hle dawn a, an thlai thar te dahthatna tha neilo tan dahthatna hmun tha tak a lo ni dawn a ni.

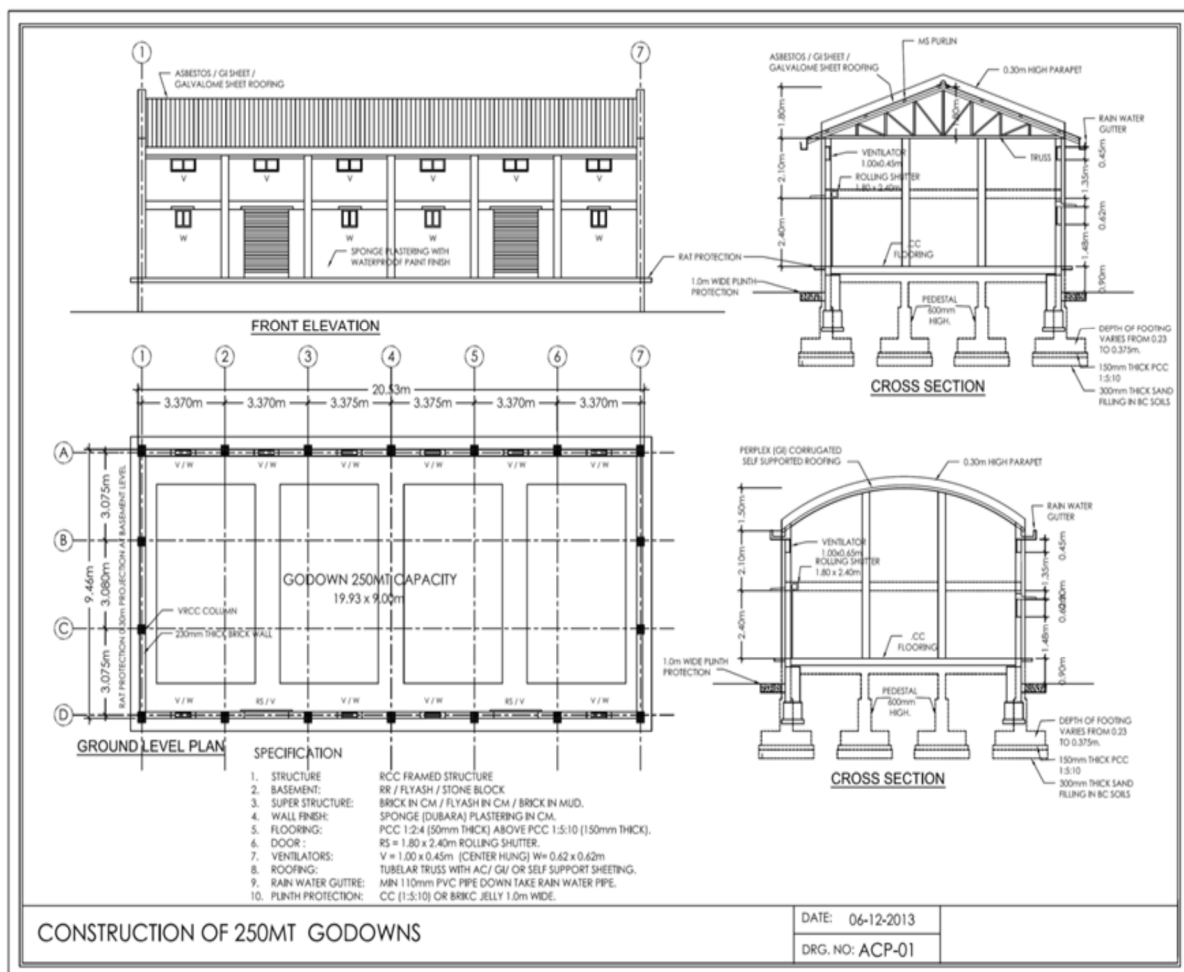
MGNREGA hnuai Godown hi '*National or State warehouse manual for operationalising warehousing (Development & Regulation) Act or guidelines issued either by Gol or States*' zulzuia sak tur a ni.

A SAK DAN TLANGPUI TE:

- Godown foundation hi 1.2m a thuk lei tha pangaia laih tur a ni a, a lei a that tawkloh chuan 1.5m thlenga laih tur a ni
- RCC a sak a nih dawn chuan, tie beam hi godown chhuat atanga 2.4m a sang ah siam tur a ni a, inching beam hi 0.3m a chhah niin chhuat atangin 4.2m a sangah siam tur a ni

- Godown chhuat hi leichhuat atanga 0.9m a sangah siam tur a ni a, Random Rubble Masonry a siam tur a ni.
- Godown chhuat dawhsan leichhuat atanga 0.47m a sang hi leia siam tur a ni a, 0.1m a chhah a mortar a khur tur a ni
- Godown chhuat hi PCC (1:5:10) a siam a, PCC tho (1:4:8) a khuh a hrut mam tur a ni.
- Brick 2nd class leh mortar (1:6) hmangin a bang te chu sak tur a ni a, cement mortar (1:4) a coat tur a ni
- Kawngkapui hi rolling shutter (1.8X2.4)m a liana siam tur a ni a, tukverh leh ventilation te hi (0.62X0.62)m leh (1.00X0.45)m a lian tur a ni
- A hna thawh leh a design hi Engineer-in a enpui tur a ni

250MT leh 500MT dawng thei Godown drawing te hi a hnuaiiah rawn tarlan an ni



16. RESTORATION OF ROADS:

Kawng tha leh thalo hian ram changkan leh changkan loh a hril thui hle a, thingtlang tan ni mai lo rampum hmasawanna atan a pawimawh em em avangin a siam hna uluk taka thawh a ngai a, a siam tawh sa enkawl hna pawh uluk taka thawh a ngai bawk a ni. Kawng awmsa siamthat hna hi MGNREGA chuan permissible works ah a telh lut a, a kawng awmsa a zirin- earth road, gravel road, black top road leh water-bound macadam road a te a thliar hrang a ni. A kawng awm dan a zirin a siam dan tlem tlem a dang ve hlek hlek a, village road tur bikah chuan heng pali tarlan ang chauha siam thin tur a ni.

AWMNA HMUN A ZIRA KAWNG THLIAR HRANNA:

- PLAIN AREAS: Phai rama kawng siam sawina a ni
- HILLY AREAS: Tlang rama kawng siam sawina a ni

A SIAM DAN TLANGPUI TE:

- ALIGNMENT OF ROAD:

Kawng lo awm tawh thin siam tha

tur kan nih avangin kawng thar siam tur anga rama alignment siam ve a ngai lova, a kawng awmsa zulzuia hanthawh mai tur a ni.

1. Horizontal Alignment: Kawng awmsa chu motor tlan a lo nawm zawk theih nan tih danglam hret a ngai thin a, kawng a hma aia tih ngil te, kawng kual tih thui te, tih tawh zawk te, kawng chho un lutuk tih dam deuh te a sawi tel vek a ni.

2. Vertical Alignment: Kawng awmsa a nih avangin hmun thenkhatah pawng te khuar te a lo tam tawh thin a, henglahi chhuah leh vur ngai te hi a tirah uluk taka survey phawt tur an ni.

- CLEARANCE AND LEVELLING: Kawng alignment hna thawh hnuah hnim lo to te leh hlobet te sam fai leh thenfai hna thawh phawt tur a ni a, zawh veleh levelling hna thawh leh tan tur a ni. Hydrometer(Level Pipe) emaw Spirit level hmanga level tur a ni.

- CONSTRUCTION OF ROAD:

- Side drain chu (trapezoid pian in) laih chhuah phawt tur a ni a, chumi lei chu kawngpui lai takah chuan vur zel tur a ni.

- A lei laih chhuah chu tih darh zel tur a ni a, 15-23cm a chhah danah zel tihmuk tur a ni, kawngpui siam tur inngahchhan tur a ni

- Lei chu laih chhuah zawh hnuah chuan kawngpui chuan vur vek tur a ni.

- Camber uluk taka siam bawk tur a ni. (Kawngpui lai tak tihsan a, side drain lam zawng v eve a tih awih chhuah tur a ni)

- Kawngpui chu 3-3.5m vela zau a ni tur a ni a, motor lian in tawh thut a kawnga len loh ven nan kawng sir lehlam lehlamah (1-1.5m) a zau side drain ti buai lovin dah chuan tur a ni. Hei hi shoulder a ni

- Kawng siam tur a zirin boulder phah emaw black top emaw tur a ni.

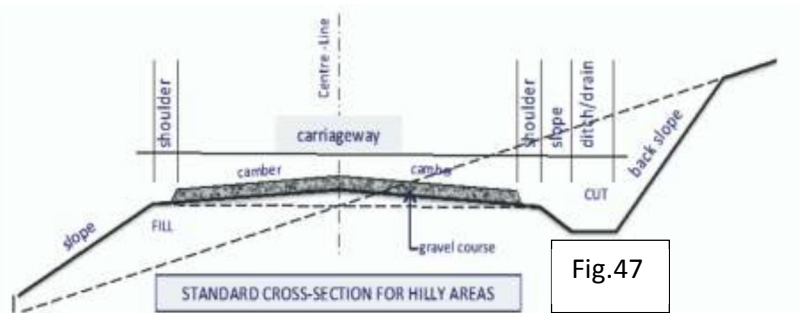
17. WATERBOUND MACADAM ROAD:

Water Bound Macadam Road hi kawngpui siam dan hriat tlanglawn ber leh black top tihloh ah chuan a tlomin a tha hle a ni. Lung chi thuma inthuah a nih avangin motor rihna pawh a lo dawngsawng tha thei hle a, ruahuiina a chiahpiah thinna hmunah pawh a tha hle bawk a ni.

WBM hi sawi tawh angin chi thumin a inthuah a, a hnuai berah sub-base course a awm a, a lai ah base course a awm leh a, a chung berah surface course a awm a ni. Surface course a rihna chu a hnuai chiah base course ah sem darh a ni a, chuta rihna chu a hnuai ber sub-base ah sem darh ni leh in, a leilung a rihna tla chu a lo darh tawh thin avangin uluk taka siam chuan a chhe ve mai mai ngailo a ni.

A SIAM HMAA HRIAT TUR TE:

- A siamna hmun tur chu uluk taka thenfai a samfai phawt tur a ni
- Levelling uluk taka lak tur a ni



- A phahna tur lei chu uluk taka sawh muk phawt tur a ni
- Lung hman tur chu a mum tur a ni lo
- Lung hman tur chu a pheh lutuk tur a ni lo
- Lung hman tur chu a chang tha hle tur a ni
- Black top leh theih a nih avangin WBM surface course hi uluk taka siam tur a ni

A SIAM DAN TUR:

- PROVISION OF LATERAL CONFINEMENT: WBM siam hna thawh hmain, lehlam lehlamah kawng zau zawng milin danna tha tak rem phawt tur a ni.
- SPREADING OF COARSE AGGREGATE: Design hnuah a chhah dan tur ruahman lawk anga chhaha siam tur a ni a, a tlangpuiin 10 cm a chhah a siam thin a ni Coarse Aggregate Grading-1 hman tur niin, hei hi sub-grade tur chu a ni. Sub-grade a nih dawn hran lemloh chuan 7.5cm a chhaha hman tur a ni.
- ROLLING: Coarse Aggregate (Rawra) uluk taka phah hnuah, 6-10 ton roller a chil tir tur a ni a, a roller rih zawng chu a lung hman zirin a danglam ve thei a ni.
- APPLICATION OF SCREENING: Uluk taka chil a nih hnuah, lei ro theh tur a ni a, hei hian lung kan hman inkara kaw awm te a hnawhkhat dawn a ni. Uluk taka chil leh tur a ni

Aggregate grading requirements: 3 grades (I, II and III)

WBM Gradation			
Grading No	Size range	IS sieve	% weight passing
1 (100 mm)	90 to 45 mm	125	100
		90	90-100
		63	25-60
		45	0-15
		22.4	0-5
2 (75 mm)	63 to 45 mm	90	100
		63	90-100
		53	25-75
		45	0-15
		22.4	0-5
3 (75 mm)	53 to 22.4 mm	63	100
		53	95-100
		45	65-90
		22.4	0-10
		11.2	0-5

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Management, NAC, Hyd

- SPRINKLING AND GROUTING: Screening leh chil zawh hnuah tui theh thet thet tur a ni a, hmunphiah hmangin lung inkara kua a lut lo te chu phiah luh leh tur a ni.
- APPLICATION OF BINDING MATERIAL: Charna tha tak chinai phut emaw hmanga uluk taka char tur a ni a, coat hnih emaw pan te te a coat tur a ni. Coat tin ah hian tui theh a hmunphiah hmanga phiah darh zel tur a ni a, coat zawh veleh hian uluk taka roller chil tir leh tur a ni.
- SETTING AND DRYING: WBM hi zan khat emaw a ro theih nan khawih lova dah tur a ni a, kua emaw lo awm palh chu uluk taka char phui leh thlap tur ani.

BLACK TOP KHAWIH DAWNA HRIAT TUR TE LEH A HNA THAWH DAN:

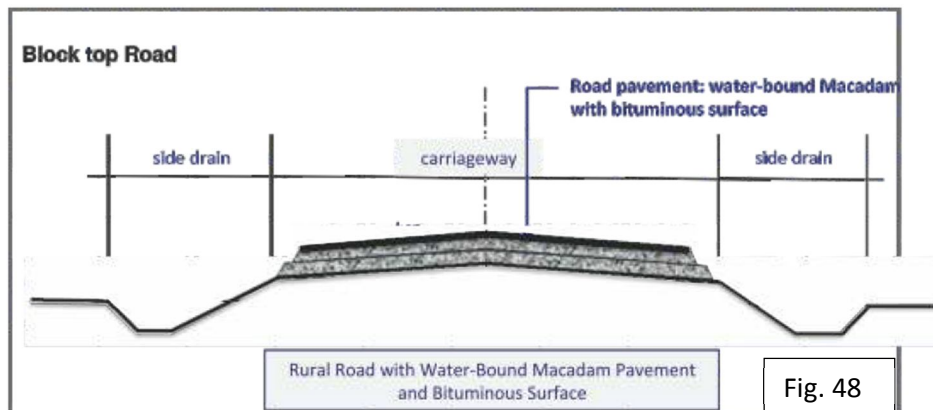
Black top hi, kawng awmsa black top emaw WBM black top hi a theih a, coat hnih tala siam thin tur a ni.

Water Bound Macadam Road bikah chuan-

- APPLICATION OF BINDER (FIRST COAT): Sprinkling leh grouting hna thawhfel hnuah chinai phuta char tur a ni lova, tin in emaw, lirthei hmang emaw in charna kan hman tur, Bitumen emaw, Tar emaw, cutback Bitumen hmanga char tur a ni. Engzah a chhah a coat tur nge tih chu a hnuaih rawn tarlan a ni.
- APPLICATION OF STONE CHIPPING: First coat tih hnuah lung nawi emaw specification milin theh thet thet tur a ni.
- ROLLING OF FIRST COAT: Roller 6-8 ton a rit a chil tir tur a ni.
- APPLICATION OF BINDER AND STONE CHIPPING(SECOND COAT): First coat a tihdan ang tho a tih leh tur a ni, achhah zawng tur erawh a danglam ve thaw dawn a ni.
- FINISHING AND OPENING OF TRAFFIC: Kawngpui chu diklo lai a awm leh awmluh enfiah phawt tur a ni a, diklohna a awm loh chuan darkar 24 hnuah lirthei tlan nan hawn tur a ni.

Binder Quantity for Surface dressing

Base Course Type	Binder requirement kg per 10 m ² area					
	First or Single Coat			Second Coat		
	Bitumen	Tar	Cutback	Bitumen	Tar	Cutback
WBM	17 to 19.5	17 to 22	19 to 22	10 to 12	12 to 15	12 to 15
Renewal of black top surfacing	10 to 12	10 to 17	10 to 12	10 to 12	10 to 17	10 to 12



18. CEMENT CONCRETE ROAD:

Cement Concrete Road hi Mizoram hmun hrang hrangah pawh lo kalpui ve tawh a ni a, lirthei chuang te tan tlan a nuam em em a, landan pawh a neih nalh em avangin black top pangngai aiin thlan a lo ni zawk fo tawh thin reng a ni. Tlan te nuam em em mahse a sum sen hi a tam thin hle a, chu mai bakah slab anga phah a nih thin avangin slab dangte nena an inkara zawmtu siam uluk loh chuan a chhe duh em em bawk a ni. A that lohna dang leh chu ni 28 tal curing a mamawh a, hei vang hian lirthei tan hawn har hle a ngai a ni.

A SIAM DAN TLANGPUI TE:

- **PREPARATION OF SUBGRADE AND SUBBASE:** Slab phah tawp a nih dawn avangin foundation ngeth tha tak a awm a ngai a, phah hma in uluk taka tihmuk phawt tur a ni. Concrete chhun hmain ni hnuh chung tal a foundation lo siam fel sa a ngai a ni.
- **PLACEMENT OF FORMS:** Thing emaw steel hmanga formwork siam tur a ni a, a hlai zawng chu concrete hlai zawng nen a inang tur a ni. kawng ngilah 3mm aia sangin a chuang tur a nilo.
- **BATCHING OF MATERIAL AND MIXING:** Cement hi 1440kg/m^3 anga lak tur a ni a, Cement hman zat tur hriat hnuah uluk takin khawl hmanga her tir tur a ni.
- **TRANSPORTATION AND PLACEMENT OF CONCRETE:** Concrete mix chu hman nghal theih tura mix tur a ni a, needle vibrator hmanga uluk taka siam rem tur a ni.
- **COMPACTION AND FINISHING:** Hand vibrator emaw khawl hmangin concrete chu tihmuk tur a ni a, hmun thenkhat khawl hmanga tih mai theih lohnaah kut hmanga tihmuk thin tur a ni.
- **FLOATING AND STRAIGHT EDGING:** Concrete tihmuk chu uluk taka tih mam tur a ni a, kil khat atanga tanin kil lehlama hrut pheih zel tur ani. He hna tihzawh hnu hian tui chuang te chu an luang chhuak dawn a ni.
- **BELTING, BROOMING AND EDGING:** Concrete a ro hma tak tak hian, ply board emaw hmanga khuha hrut tur a ni a, hmunphiah brush ang chi a brush leh vek tur a ni. A tawp berah a kil te chu uluk taka siam rem tur a ni
- **CURING OF CEMENT CONCRETE:** Buara hnawng emaw hmangin khuh phawt tur a ni a, hei hian concrete chu a tichang anga, concrete ro hma lutuk tur a veng dawn a ni. A ro hma lutuk chuan khi a insiam thin a ni.

