

KA PASOH (EXECUTIVE SUMMARY)

**KA EIA, KA EMP & KA JINGPAN JINGBIT
(ENVIRONMENTAL CLEARANCE)
NA KA BYNTA BAN TEI IA KA JAKA LUM NUIB BAD
PYNDONKAM IA KI NIUT HA KA RUKOM KABA KHUID
BAD IOH JINGMYNTOI HA SHILLONG, MEGHALAYA**

La phah sha

Ka Meghalaya Pollution Control Board

La pynbit pynbiang da

*Ka State Investment Project Management & Implementation Unit,
SHILLONG, MEGHALAYA*

Ka EIA Consultant:

**SENES CONSULTANTS INDIA PRIVATE LIMITED
(Accreditation No: NABET/ EIA/ 1013/043 dated 9th October 2010)**

May 2012

A) Introduction

Ka Sorkar India lyngba ka tnat treikam pynroi sor ka Ministry of Urban Develpoment (MoUD) ka la trywa ban pyntrei kam ia ka Prokram ban kham pynbha shuh shuh ia ka urban infrastructure ha ki nongbah jong ka thain Shatei-lam-mihngi jong ka ri India kum ka Agartala, Aizawl, Gangtok, Kohima bad Shillong. Ka jingbei tyngka kan pynbha shuh shuh ia ka mariang sawdong bad ia ka bha ka miat jong ki nongshong shnong ha ki jaka sor jong kine ki san tylli ki nongbah, kan wanrah ruh ia ka jingpynsuk ha kaba iadei bad kiwei kiwei ki jingdonkam ha ki jaka sor, kat ha u snem 2014. Ka Sorkar India ka la pynioh ruh ia ki jingiarap ba kyrpang na ka Asian Developmen Bank (ADB) ban bei tyngka na ka bynta ban pynbha shuh shuh ia ki nongbah jong kine ki jylla jong ka bynta Shatei-lam-mihngi (NERCCDIP). Ka jingthmu ba ha khmat duh jong kane ka project ka long ban kyntiew ia ka jingshakri jong ka SWM bad ban pynlong ia ka kaba bit kaba biang katkum ka jingstad saian ban khmih bniah ia ka jingtheh ia ki jaboh ne ki ñiut ki ñier katkum ka jingpynbeit ryntih ki ain ka Municipal Solid Waste (Management & Handling) Rules 2000.

Kumba la kdew haneng, ka tnat treikam pynroi sor ka Sorkar India, ka Ministry of Urban Develpoment (MoUD) ka don ia ka bhah ban peit bad pyntreikam ia kine ki project ba la tyrwa lyngba ka State Investment Project Management & Implementation Unit (SIPMIU), Shillong hapoh ka Urban Affairs Development jong ka Sorkar Meghalaya. Ia ka SIPMIU la khlieh da u Project Director bad la ia iaraplang da ka kynhun Design & Supervision Management Consultant (DSMC) kaban pynwandur ia ka nongrim, pynbit pynbiang ia ka jingthep ia ki tender jong ki contract bad ban peit ia ka rukom pyntrei ha ka por ba shna ia ka. Ia ka kynhun consultant (DSMC) la lamkhmat da ka Mott MacDonald Pvt. Ltd. Ia ka kam ban pynbit pynbiang ha rukom ban lum ban lang bad jingtheh ia ki ñiut ki ñier (solid waste management) ha Shillong la pyntreikam lyngba kane ka program. Kane ka kynthup ia ka primary bad secondary collection system lane ka rukom lum ia ñiut ki ñier naduh iing haduh banda poi shaki jaka ba la mang kyrpang ban bret, da kaba pynioh ia ki borti bret ñiut, pynbit pynbiang ia ka lum ñuit bad ki kali kit ñiut, ban pynbha shuh shuh ia ka composting facility ne ka jaka ban pynkylla sbob (150 TPD) bad ka sanitary land fill lane ka jaka ban kynshew ia ki ñiut ki ñier. Kane ka lah ruh ban don ia ka waste to energy plant lane ka jaka ban pynkylla ia ki ñiut sha ka bor ding (energy) kum shibynta ban pynioh jingmyntoi na ki ñiut. Ka jaka ba mang kyrpang na ka bynta kane ka kam ka hap hapoh ka Greater Shillong Planning Area.

Ka Mott MacDonald ka la iateh bad ka SENES Consultant India Pvt. Ltd. ban pyndep ia ka jingwad bniah jong ka EIA katkum ka jingbthah jong ka ToR ba la ai da ka tnat treikam ba peit ia ka mariang bad khlaw ka Sorkar India (Ministry of

Environment & Forest, Govt. of India). Ka SENES ka la pyndep thikna ia ka jingwad bniah na ka bynta ban pynkhreh ia ka report jong ka EIA.

Katkum ka Environmental Impact Assesment (EIA) notification, ka jingpyntip paidbah ba la pynmih da ka tnat treikam jong ka Environment & Forest, Government of India 2006 (Bad ki jingpynbeit ba hadien) ka Common Municipal Solid Waste Management Facilities (CMSWMF), ka hap ha ka category 'B' project bad kine kin donkam ia ka Environmental Clearance lane ka jingioh jingbit. Kane ka project ba la tyrwa, kan donkam ia ka Environmental Clearance na ka State Environmental Impact Assessment Authority (SEIAA) kaban pynshong nongrim ha ka jingai jingmut jong ka State Expert Appraisal Committee (SEAC) katkum ka jingpyntip paidbah jong ka EIA notification, September, 2006. Hynrei, namar ka jingbym don ka SEIAA bad ka SEAC ha ka jylla Meghalaya, kane ka project ka donkam ia ka Environmental Clearance na ka tnat treikam jong ka Ministry of Environment & Forest (MoEF) jongka Sorkar India.

B) Ka jingbatai bniah ia ka Project

i) Ka jaka ban tei ia ka Project

Ka jaka ba thmu na ka bynta ban pynkylla sboh lane bor ding bad ka sanitary land fill lane ka jaka ban kynshew ia ki ñiut bym lah ban pyndonkam shuh, ka hap ha ka Greater Shillong Planning Area. Kane ka jaka ka don kumba 54 acres (21.853 Ha). Yn tei ha ka jaka ba lait thylli jong ka Sorkar, hajan ka shnong Umsawli kaba jngai kumba 12 km. na Shillong. Kane ka jaka ka dei jongka Sorkar Meghalaya bad la bhah kyrpang ia kane ka jaka na ka bynta katei ka kam. Ka jaka ka hap hapoh ka Survey jong ka ri India Topo-Sheet No. 78 o/ 14. Ka jingthew jingwoh ba malu mala jong kane ka jaka ba la tyrwa ban pyndonkam ka long kumne harum:

Latitude: 25°36'56"N; Longitude 91°56'31"

ii) Ka jingdon ka Jaka

Ka jaka baroh ba la ioh na ka sorkar na ka bynta ban tei ia kane ka Project ka long 54 acres (21.853 Hectres). Na kane 51.89 acres (or 21 Ha) yn pyndonkam na ka bynta ban pynkylla sboh lane bor ding na ki ñiut bad ka sanitary land fill lane ka jaka ban kynshew ia ki ñiut ki ñier bym lah ban pyndonkam shuh. Katkum ka Toposheet, ia kane ka jaka la pruid dak kum ka jaka khlaw (unclassified forest). Hynrei, ka jingwad bniah ka pyni ba ym don kino kino ki dieng bah. Ha ka jing leit jurip ba kyrpang la shem ba kane ka jaka ka kynthup tang ia ki sanium saniap

bad ki phlang ki kynbat. Kane ka jaka ka hap hapoh ka Greater Shillong Planning Area bad ia kane ka jaka la pynbynta kyrpang da ka sorkar Meghalaya na ka bynta ban pyndonkam ban bret bad pynkylla sboh lane bording na ki ñiut.

iii) Ki sawdong sawkun jong ka jaka

Shaphang Mihngi jong kane ka jaka don ki shnong Umsawli, Mawtari, Mawlong, Mawkasiang, Mawdiangdiang ha ka jing jngai kumba 3 km. Ym don kano kano ka jingbuhai shnong paidbah shaphang Sepngi na kane ka jaka lait noh tang ka shnong Mawpat bad Mawtawar. Ia ka bynta ba shaphang Shathie jong kane ka jaka la ker tawiar da ki shnong Ishyrwat, Diengiong bad kiwei kiwei. Ym don kano kano ka shnong shaphang Shatei na kane ka jaka ba la thmu ban pyndonkam haduh ka jingjngai kumba 3 km.

iv) Ka jingkhmih bniah ia ka jinglong ka mariang sawdong kane ka jaka

Ia kane ka jaka la jied kyrpang hadien ka jingwad bniah bad pynshongnia pura katkum ki jingdonkam bad ki jingbatai bniah jong ka Central Public Health & Environmental Engineering Organisation (CPHEEO). Baroh ki jingdonkam bad ki jingwad bniah ia kane ka jaka la leh katkum ki jingbthah jong ka CPHEEO.

v) Ka rukom pynkylla sboh bad ka rukom lum ia ki ñiut

La tyrwa ban buh ia ka jaka pynkylla sboh na u ñiut kaba 150 TPD hapoh kane ka jaka bad ban lum ia ki ñiut bym lah pyndonkam shuh. Ka jaka pynkylla sboh kan donkam haduh 2 hectares (4.94 Acres) ka jaka bad kane kan neh haduh 15 snem. Nalor kane ka jaka pynkylla sboh yn pyntreikam ruh ia ka jaka lum ne kynshew ia ki ñiut bym lah shuh ban pyndonkam ne ba la kyntait.

Ki jinglong ba kyrpang jong kane ka design lane dur ba la tyrwa na ka bynta ka jaka lum ki ñiut bym lah shuh ban pyndonkam ka long kumne harum:

- Ka rta ba la mang na ka bynta ka Design: Aprox. 30 Snem
- Ka jingkyngjang nalor ka sla khyndew: 13-18 m
- Ka jingngiam (Volume): 18, 00,000 m³
- Ka jingdon ki karma ne Daily Cells: 365
- Ka por ban khang bad ka por hadien ka jingkhang noh: 20 Snem

vi) **Ka Liner System** lane ka Rukom Siang Lining.

Ia ka liner system lane ka rukom siang lining ia ka SLF ba thmu ban shna, la pynwandur katkum ka jingbthah jong ka tnat treikam jong ka Environment bad Forest da ka ba shna ia ka non-permeable lining system lane ka jing siang ia ki lining bam lah ban pei ne jreiñ ha trai bad sawdong jong ka jaka ban lum ia ki ñiut bym lah pyndonkam shuh. Ki jingbthah na kane ka tnat treikam ki long kumne harum:

- Ka jingsiang da ka Dewbyrtha lane da ka khyndew ba la khleh (Ba la khleh bad u bentonite) ban pynduna ia ka jingsam ne jingjreiñ lyngba ka um / umjakhlia ka ban ym palat ia ka 10^{-7} cm/sec ha trai jong kane ka jaka ba thmu ban lum ñiut; bad
- Halor kane ka dewbyrtha lane khyndew ba la khleh, yn siang sa ka HDPE geo- membrane kaba rben 1.5 mm.

Vii) **Ka jing lum bad pynkhuid (treatment) jong ka um jaboh,**

Da kaba shu antad ba ka SLF kan ym iakhleh bad ki um na ki jaka ba markhap, la mang ba la kumno kumno kane ka jingmih jong ka um jaboh katkum ka jingkheiñ jong ka CEEPHO kan long 25- 50% na ka jinghap ka umslap ha katei ka jaka bad 10- 15% na ka jinghap ka umslap na ki jaka ba markhap.

Ki mat ba kongsan kiba thmu ban pyntrei kam haka ban pynlang ia ki um jaboh ba mih, ki long kumne harum:

- 1) Halor ka lining ba lah siang (composite liner), yn theh da u kynja shyiap ba rben kumba 300 mm bad ha kaba ka um / um jakhlia ka lah ban ksam ym duna ia ka 10^{-2} cm/sec.
- 2) Ka jing siang ia ki pipe ba la sam thliew baroh sawdong ka jaka ba thmu ban lum ñiut. Kine ki pipe kin pdiang / kjit ia kane ka um jaboh khnang ban lah ban tan sha ka jaka pynkhuid.
- 3) Shi bynta na kane ka um jaboh yn tan biang sha ka jaka pynlang ia ki ñiut ban pyndonkam ha ka kan iarap ban pynduna ia ka jaka pyntreikam. Kaba sah jong kane ka um jaboh yn tan sha ka jaka pynkhuid.

Viii) **Ka jingmih ka jynhaw ha ka jaka pynlang ñiut, ka jingpyniaid bad ka jingthaw lad**

Ki ñiut kiba dei ban lum ha kane ka jaka ba la buh kyrpang kin long beit tang kito ki ñiut ki bym lah shuh ban pynkylia shuh sha kano kano ka sboh da ka MSW processing facility. Kumta ka jingmih jong ka jynhaw kan long kaba duna haduh katta katta ha kane ka jaka. Hynrei, haba pyrkhat pat ia ki jingjia ki bym poi pyrkhat, ha kaba teng teng iaki jait ñiut ki ba lah ban kylla sboh ki kum theh ha kane ka jaka ba la mang tang na bynta ki ñiut ba la kyntait, yn sa pyntreikam ia ki lad jingiada ban pyniaid ia ka jynhaw. Yn sa khmih bniah ruh kumno ban iada ia ka jingmih bym lah ban khang ne pynsangeh na ka SLF. Kine ki jingiada ki long:

- Ka jingsaindur ia ka jaka pynlang ia ka um jaboh ha trai bad ha ki kynroh jong ka jaka theh ñuit kan iarap ban bat bad iada ia ka jingmih jong ka jynhaw shabar.
- Ka jing siang ia ka jingsop ba bat ia ka jynhaw halor ka jaka lum ñiut balah dap.
- Ka jingpyllait antad ia ka jynhaw na kane ka jaka lum ñiut ban ym ailad ia kane ka jynhaw ba kan lait kat ba mon, lyngba ki pipe ba la buh kyrpang na bynta kane.

ix) Ka jingtap ba nalog duh:

Ka jingtap ba nalog duh jong ki bynta balah dap jong kane ka SLF kan long katkum ka jingbthah jong ka MoEF bad ka CPHEEO bad ka kyntup saw bynta. Yn shna ha kata ka rukom khnang ba ym ailad ia ka um ba rung shapoh bad hakajuh ka por ban nym ailad ia ka jynhaw bathaw hapoh, ba kan mih shabar. Ka jingsop kaba nalog duh kan kynthup ia kine harum:

- Ka syrtap khyndew kumba 450 mm ka jingrben kaba don ki jingthung kiba pynshongskhem ia ka.
- Ka nala ban pyntuid ne pynkie kumba 150 mm ka jingrben ba la shna da u kynja shyiap ba lah ban jiar kumba 10^{-2} cm/sec.
- Ka syrtap kaba 600 mm ka jingrben ba la shna da ka dewbyrtha ne ka khyndew ba la khleh kaba lah ban jiar ym duna ia ka 10^{-7} cm/sec.
- Ka syrtap ban pyllait jynhaw ne syep kaba 200 mm ka jingrben da u kynja shyiap ba lah ban jiar palat ia ka 10^{-2} cm/sec.

x) Ka nala pyntuid um ba nalog bad narud:

- Yn khanglad ia ka um slap kaba tuid na ki ranab nalog bad shabar jong kane jaka lum ñiut ba kan tuid sha ka jaka lum ñuit, da kaba shna ia ki nala tuid um ba bha sawdong jong kane ka jaka bad tan ia ka sha ka jaka ba kyrpang ban pynlang ia ka khnang ban iada ia kane ka jaka lum niut.
- Ia ka um slap kaba hap halor jong ka bynta jong kane ka jaka lum niut yn lum kyrpang da ki pipe ki ban tan ia kane ka um sha ka jaka ba lum ia ka um jaboh ban yn pynkhuid ia ka ruh shuwa ban bret noh.

- Ia ka um slap kaba hap ha jingtap ba nador duh jong ki bynta balah dap jong kane ka SLF yn pyntuid beit sha ka jaka ba la buh kyrpang ban kynshew ia ka umslap. Yn khanglad ia kane ka um slap ba kan tuid sha ka jaka lum ñuit
- Ia ka nala kiban shna ka jaka lum ñiut balah dap, yn tei ha kata ka rukom ba kan lah ban neh wat haba don ka jing ngam ka khyndew, ka jingtuid khyndew, bad na ki eriong ki balah ban jia ha kine ki jaka.

xi) Ki jingtei ban iarap haka ban pyntrei ia kine ki kam:

Kine kin kynthup ia ka jingtei kynroh sawdong ia kane ka jaka, ka khyrdop ban rung shapoh, ka surok kali, ka jingthung dieng sawdong kane ka jylli, ka jaka ban pdiang ia ki ñiut ki ñier, ki jaka treikam (Office), ki jingdon kam paidbah kum ki painkhana, kamra sum, ki jaka ai jingsumar ba mar mar, jaka bam, jaka shongkai bad kiwei kiwei de ki jingdonkam kum ka lait, ka um bam um dih, ka telephone ki nala bad kiwei kiwei de ki lad pathai khubor.

xii) Ka rukom pyntreikam bad ka jingpynkut:

Ia kane ka jaka lum ñuit yn pyntrei ha ki bun bynta, khnang ba ha kano kano ka por lada kawei ka bynta ka dap noh lah ban tap noh ia ka bad ha kawei pat ka bynta yn nang iai pyndap, kin don ki bynta kan nang pynkhreh ban pdiang ia ki ñiut bad sa kiwei pat ki bynta ka bym pat sdang, yn pynap lypa. Ia kawei kawei ka bynta la mang na ka bynta shi snem ka ban kynthup ia ki karma kaba yn pyndap man la ka sngi, ka jingtap noh man la ka sngi, ka jingpynbiang ban lum ia ka um ne um jaboh ba mih, ka jingiada ia ka jingmih jong ka jynhaw bad ka jingtap khatduh jong ka bynta ba dap. Ia kawei pa kawei ka bynta yn pyndap naduh trai haduh ban da dap bad da lah dap pura, yn tap noh ia kata ka bynta.

Hadien ka karma ba khatduh jong ka bynta ka dap, yn sa tap daka jingtap ba khatduh. Ia ki bynta balah dap, la mang ban sumar bad khmih bniah kumba 20 snem hadien balah tap khatduh.

xiii) Kiwei pat ki lad ban pynmih bording (energy) na ki ñiut

Namar ba ka ñiut ka long kaba iakhleh bun jaid ki mar bad ba la lum na bun ki tyllong, kan don ka jingiapher ha ka jingbun ka bor ha ki (calorie). Kumta ia ka ñiut hap ban pynrkhiang bad pyniakhlad, da ka rukom RDF. Ia ka ñiut, hadien ba lah dep jurip bniah yn sa thep ha ki bynta ban pyniakhlad ia ki ñiut da kaba pynrkhiang bad ban bynta ia ki ha ki ar bynta: kiba heh+150 mm bad kiba rit - 150 mm. Nangta, ki ñiut kiba kham heh yn sa shain bad thep ha ka jaka

pynrkhiang (rotary dryer). Ha kane ka jaka pynrkhiang, ka lyer ba khluit kan mih ha kaba ka thang ia ki ñiut ba ba don sap dieng. Ia ki jingmih na kane ka jaka ba pynrkhiang yn sa thep ha ki jaka ba khot Rotary Trommel ban pyniakhlad ia ki ñiut kiba ni da kaba jiar lyngba ka kynja jar ba 8 mm. Kine ki ñiut kiba ni kiba mih bad ba la pyniakhlad ki don ia ka bor ba khlain ban pynsboh ia ka khyndew. Nangta ia u ñiut yn sa buh ha ka jaka ba pynmih lyer ha kaba ki nuit ba kham ni kin her bad ia kine yn salum la ka jong. Kine ki ñiut ba kham ni ki don ia ki biomass, ki kot ki sla, ki ksai jaiñ bad kiwei de ki tiar ki ba lah ban ñng bad la khot ia ki kum ki Refuse Derived Fuel (RDF) Fluff, bad ka jingkhlain ka kalori kaba 2,800 kcal/kg.

Wat lada ka RDF ka long ka technology kaba rim na ka bynta ban pynkylla ia ki ñiut sha ka lad pynmih bor, ki don sa kiwei pat ki lad ban pynkylla ia ki ñiut sha ka ban pynmih bording, kum- ka Bio-methanation lane ka rukom pynmih ia ka lyer ne jinghaw bad ban pynkylla khatduh sha ka bor ding elektrik.

Ka don ruh ka jingthmu ban pynmih ia ka syngas (synthetic gas lane ka gas ba la shu shna da u briew) ka lah ban pynmih haduh 2.0 MW ha man ka shi-kynta ka bor ding elektrik na ka 150 MT jong ka ñuit ba mih shisngi na Sor Shillong hapoh ka BOOT model na ka bynta lai-phew snem. Ki mat ba kongsan na ka bynta kane ki long kumne harum:

- Ka jingmih ki nuit bym pat pyniakhlad baroh ha ka shi sngi- 150 tonnes (54,750 tonnes ha ka shisnem).
- Ka jingioh bor ding elektrik- 2.0 MW ha ka shi kynta.
- Ki nuit ba la kyntait ban bret sha jaka pynlang ñuit- ka duna ia kumba 15% na kaei ba lah ioh lum, kynthup ia ki tiar lyngkhoi lyngkhai ba mih na kaba tei jingtei ba lah pynpra.
- Ka jingioh bor ding elektrik baroh shi snem- 15,000 MW hrs.
- Ka jingdonkam jaka – 12,000 metres square (3.0 Acre).
- Ka por jingiateh Soskular BOOT (Build, Own, Operate and Transfer) - 30 snem.
- Ka bor ding elektrik banpynmih - Ka jinglongtraai kan dei jong ka company kaba pyntrei ia ka kam.

- Carbon Credits (CDM benefits) - Ka jinglongtraï kan dei jong ka company kaba pyntrei ia ka kam.

iv) Ka dor jong ka project

Ka jingkhein kyllum ia ka jinglut jingsep na ka bynta ban pyntrei ia kane ka kam kan long la kumno kumno INR 415.07 million.

C) KA BA PYNHONGNONGRIM HA KABA IADEI BAD KA MARIANG

Ki bynta jong ka mariang kum ka micro-meteorology, ka jinglong ka lyer, ka um ka khyndew, ki jingthung jingtep bad ki mrad ki mreng kiba don sawdong kane ka jaka la dep bishar bad jurip bniah bha bad la ianujor ruh bad kiwei kiwei ki lad jingtip kiba iadei bad kane ka jaka. La pule bad wad jingtip bniah ruh lyngba ki kot ki sla, ha kaba iadei bad ka jingpyndonkam ia ka khyndew, ki mawsiang, ka jingat - jingthem ki lum, ka jinglong ka ramew ne geology, ka jinglong ka khyndew bad ia ka jinglong jingman ka ioh ka kot jong ki briew ha sawdong kane ka jaka.

i) Ka jinglong ka jaka

Ka Shillong ka long ka jaka kaba kynjang. Ka jingat bad jingthem jong ki ranab lum ha Shillong ka don hapteng 1400- 1900 m nalar duriaw (msl). Ka jingsharing jong ki syntai lum jong ka Sor ka long 5% haduh 10%, lait noh ki katto katne ki jaka them kum ka Happy Valley, Polo Ground, ha kaba ka jingsharing ka long tang kumba 5%. Ka jaka ba thmu ba pyntrei ia ka kam ka hap hapoh ka Shillong Plateau lane Meghalaya Plateau. Ka jaka bad ki jaka ba marjan ki dap da ki jaka madan ba kynjang kum ka miej, ki sharinglum, ki riat bad ka jingjrang jinglyngkot ki lum ki long hapteng 1000- 1700 m. Ka jingjrang jong ka jaka ba thmu ba pyntrei ia ka kam na duriaw ka long hapteng 1380- 1580 m nalar duriaw.

ii) Ka jingpyndonkam ia ka khyndew

La dep jurip bad bishar bniah bha ia ka jingpyndonkam ia ka khyndew kaba hapoh 10 km u radius na ka map ba la ioh na ki kor satellite bad la shem ba kham bun na kane ka jaka ka dei ka jaka khlaw kaba hap hapoh ka thup jong ki khlaw bym shym la pruid dak kyrpang – unclassified forest (57.85%), ki khlaw ba hap hapoh jingiada – protected forest (1.26%) bad ki law adong - reserved forest (3.32%). Ka jaka basah briew ka kynthup haduh 16.80% na ka jaka baroh, kaba kynthup ruh ia ki jaka ba hap hapoh ka Shillong Municipal Board.

iii) Ka Khyndew

La lum la lang ia ki jait khyndew kiba don ha kane ka jaka ban pynthikna ia ka jinglong jingman ka khyndew. Da kaba pynshong nongrim ha ka jingwad bniah la shem ba ka pH jong kane ka khyndew ka long hapdeng 6.5- 7.0, ka jingdon jong ka EC ha ki ar tylli ki jaka ba la lum kyrpang ka long 83.6 $\mu\text{S}/\text{cm}$. bad 540 $\mu\text{S}/\text{cm}$ kumjuh 40 bad 83.6 $\mu\text{S}/\text{cm}$, ka jingdon ka nar zinc bad tama ha ki khyndew ba la lum la lap ba ka long hapdeng 7.60 – 8.41 kg/ha bad 2.50 – 2.90 kg/ha.

iv) Kaba iadei bad ka jingkhynniuh jumai

Kane ka jaka ka don hapoh ka zone V jong ka seismic zone map jong ka India balah pynkhreh da ka Bureau jong ka Indian Standard (BIS) 2002.

v) Ka jinglong ka mariang ha ka ba iadei bad ka suinbneng

La buh ia ka Micro Meteorological Station ha Dhanketi, Shillong ban khmih thuh ia ka jinglong ka mariang bad ka suinbneng (ka don 25° 33' 57.10" N bad 91° 53' 17" E), nangne la ioh ban lum ia ki jingthew hapdeng u bnai November-December 2011. Haba khieiñ kyllum, ka jingthew ba pdeng ka pyni ka jingshit jingkhriat (temperature) ha ka aiom tlang ka long 30.6°C bad 9.9°C. Ka jingkieu bad jinghiar jong ka jingsngem lane Relative Humidity (RH) ba la ioh lum man la ka sngi hapdeng jong kane ka por khmih bniah ka long 97.5 % bad 33.4%. Ka jingioh slap ka long 1.6mm, ha kawei na ki sngi ba ioh slap. Ka jingbeh jong ka lyer kham bunsien ka long na Mihngi-Shatei lam Mihngi bad ka jingsted jong ka jingbeh ka lyer ha ka jingkhein ka ba pdeng ka long 1.08 m/s. La lap ba ka jingjur

jong ka jingbeh ka lyer ka long naduh 0.5 haduh 1.5 m/s, katba ka jingbeh ba jai jai kaba la ioh ban thew ka long 2.70%.

vi) Ka jinglong ka lyer ha ki sawdong sawkun jong kane ka jaka

Ia ka nongrim jong kane ka jingthmu la sdang ban pyntreikam da kaba bud bha ia ki kyndon jong ka MoEF. Ki parameters lane ki jingkhein ban pyniaid shaphrang ia kane ka kam ki long PM₁₀, PM_{2.5}, SO₂, NO_x, CO, H₂S & CH₄. Haba khmihthuh ia ka PM₁₀ bad PM_{2.5} la shem ba baroh ki don katkum ki kyndon jong ka NAAQ ha ki ar jaka. La shem ruh ba kiwei pat ki jingthew jong ki AAQ ki long hapoh ki jingthew ba la buh ha ki adong.

vii) Ka jingjam jong ka jingsawa ha kane ka jaka bad ki sawdong sawkun

Ia ka jingjam jong ka jingsawa ha kane ka jaka bad ki sawdong sawkun jong ka la shem ba ka long kaba biang bha: ha ka por mynsngi (55 Decibels) bad mynmiet pat (45 Decibels) kaba long ha ka jingthew kaba biang eh na ka bynta ki jaka ba buhai shnong ki briew. Kawei na ki daw jong kane ka jingduna jong ka jingsawa lane ka jingkyngjah ha kane ka jaka ka long namar ba duna ka jingdon ki karkhana.

viii) Ka jingiaid ki kali

Ia ka jingdon, jingiaid bad jingstet ki kali ki motor la peit bniah bha haduh 8 kynta kynthih bad tang shisien ha kane ka por jong ka jingjurip bniah. Ia kane la leh da kaba shim kyllum lang ia baroh ki kali kiba kiew arted bad kiba noh arsut, ki kali heh (trok, bos, trailer, trok rit bad kiwei kiwei), ki kali rit ba saw shaka (jeep, matador, maruti car bad kiwei kiwei), ki kali lai shaka (tempo, auto bad kiwei kiwei) bad ki ar shaka (motor cycle bad kiwei kiwei). Ka jingkhapngiah ha ka jingiaid ki kali ki motor (63 tylli) ka long ba la ioh lum hapteng ka por 1 baje haduh ka por 3 baje janmiet bad ka por ba khapngiah eh ka dei ha ka por 2 baje haduh ka por 3 baje janmiet (33 tylli). La lap ba ka jingduna ki kali ka long (10 tylli) ha ka por 8 baje haduh ka por 9 baje mynstep.

ix) Ka jingdon ki wah bad ki wahduid

Ka Wah Umkhrach bad ka Wah Umshyrpi ki long ar tylli ki wah ba kham heh ha Sor Shillong. Kine ki wah ki tuid na pdeng jong ka sor Shillong bad ki don kumba 12 km ka jingjngai na ka jaka ba thmu ban pyntrei ia ka kam. Baroh ar tylli kine ki wah ki tuid sha pung Umiam.

x) Hydrogeology: Ka jinglong jong ki um ba hapoh khyndew

Ka jingdon jong ka um ha shuwa ka lyiur (2006) ha Shillong ka long 0.60m bgl katba hadien ka lyiur pat ka jingdap ka long 0.14m bgl. Katkum ka jingshem jong ka CGWB, katto katne ki jaka ha kane ka district ka um ka don kham bun ka nar (Fe concentration) kaba don 1.52 haduh 8.4 ppm.

xi) Water Quality- Ka jinglong jingman jong ka um

Ka jinglong jong ka um kiba hapoh khyndew (Ground Water) bad ki um kiba tuid nalor (Surface Water) ia kiba la tong na saw tylli ki jaka. Ia ka um napoh kyndew la nujor bad ka IS 10,500: Indian Standards for Drinking Water bad ki um kiba tuid nalor la nujor bad ka CPCB class C water quality. Na kane ka jingianujor la shem ba ka jingdon ki coliform ha ka um napoh khyndew ki duna haduh katta katta. Hynrei ka jingdon jong ka Dissolved Oxygen hapoh ka um ka kham bun ban ia ka ba ibit bad mang (4mg/l).

xii) Ecology- Ka jinglong jong ka Mariang

Ka East Khasi Hills District ka hap hapoh ka Indo-Burma Biodiversity Hotspot kaba don bun ki jingim jingman ba phylla, katkum ba la lap da ka International Union for Conservation of Nature and Natural Resources (IUCN). Ka dei ka jylla ba bun eh ki jingim ba phylla bad la mang kyrpang ia kane ka thairi kum ka jylli ban pynneh pynsah ia ki jingthaw ba im ki ba don ha ka mariang. La shem ba kumba 50% ki jingthung kiba phylla badon ha ri India, ki don hangne ha ka ri jong ngi bad ka dei kawei na ka "biodiversity hotspot' jongka pyrthei. Bun jait ki jingthung jingtep, ki jaka phlang, ki ryngsan um, ka jaka ktieh, ki phlang rit, ki bir, ki khlaw diengrit bad kiwei kiwei ki don hangne. Kane ka thain ka riwspah ruh ha ki 'tiew dieng ba bunjait, ki syntiew khlaw, ka shriew, u phan karo, ki siej, ki shken bad ki jhurkhaw ba bun jait.

Ka jaka ba thmu ban pyntrei ia ka kam ka ba don hajan ka shnong Umsawli kam hap hapoh khlaw sorkar ne ki 'law adong. Ki jingthung jingtep kiba mih ha kane ka jaka ki kynthup ia ki dieng rit (kseh), phlang rit, ki langtana, ki dieng tiwjain bad kiwei kiwei.

Ha ka por ka jingwad bniah (survey) la shem ba don haduh 90 jait ki jingthung kiba kynthup ia 42 jait ki dieng, 15 jait ki diengrit, 9 jait ki kynbat dawai, 8 jait ki jingthung ba pur, 5 jait ki siej, 2 jait ki shken bad 8 jait ki tiwedieng.

Kam don kano kano ka jaka ba kyrpang na bynta ki mrad khlaw kum ka National Park, Wildlife sanctuary, ka jaka ban pynneh pynsah ia ki jingthung jingtep, ka jaka sah ki hati, ki khla bad kiwei kiwei ki mrad, kiba don markhap ia kane ka jaka ba la mang na bynta ka project.

xiii) Socio Economic Condition - Ka rukom im bad ka ioh ka kot

Ha ka jingwad jingtip shaphang ki shnong ba kynthup ia ka Umsawli, Ishyrwat, Umpling, Tynring, Mawdiang diang, Mawkasiang, Mawlong, Mawpat, Lumkseh, bad Mawtawar, la lap ba ka Umpling ka dei kaba bun briew tam (9796) bud sa ka Mawpat (4663). Ka jaka kaba duna eh ki nongshong shnong ka dei ka Ishyrwat (147), katba la shem ba ka Shnong Lumkseh ka don ka longing kaba duna tam (4.91). La shem ba ka jingdon 910 ki riew kynthei ha man la 1000 ngut ki shynrang ha kane ka thaili, ka ba long kham duna ia ka jingdon jong ki riew kynthei 972 na man la ka 1000 ki shynrang ha jylla Meghalaya. Ka jingdon ki Scheduled Tribes ka long palat 57% ha kine ki jaka, ki Scheduled Caste pat ki don kumba 0.50%. Kumba 56.90% bad kiba bun na ki nongshong shnong ki dei ki schedule tribe (56.90%) bad schedule caste (0.50%). Ka jingdon ki briew ba lah ban pule ha ka Greater Shillong area ka long kumba 88%, kaba long kham bun ka jingdon ha ka jingnang jingstad ban ia nujor bad kiwei pat ki jaka jong ka ri kaba long tang 65.4% (kyllum ha census 2001). Ka jingiashim bynta ha ka jingtreikam treijam ha Shillong ka long tang 27.6% kaba pyni ba ka duna shibun haba ianujor ba ka jingkhein jong ka ri India baroh kawei kaba long 39.3%.

D) ENVIRONMENTAL IMPACT ASSESTMENT (Ka jingkhmih ia ka jingktah ia ka mariang).

Kane ka bynta ka pyni ia ka bha ka miat bad ka jingktah kaba lah ban wan ha ba shna bad pyntreikam ia kane ka Project.

i) Ambient Air Quality-Ka jinglong jong ka lyer

La khmih lynti ba u pui pui un dei uwei u ban ktah ia ka jinglong jong ka lyer. Une u pui pui un mih namar ka jingpynkhuid bad ka jingpynkhreh ia katei ka jaka, ka jingtih khyndew bad ka jingiaid kali ha ka surok khyndew. Ki tiar shna, ki kali rah khyndew bad kiwei pat ki kali kin pynjaboh ia ka lyer da kaba pynmih ia ki gas kum ka Carbon Monoxide (CO), Oxide of Nitrogen (NO_x), Sulphur Dioxide (SO₂) bad ki Hydrocarbons (HC) ki bym lah ban ing. Hynrei, namar ba ha kane ka jaka bad ki khappud jong ka ki duna ki nongshong shnong, ki jingthung jingtep bad kiwei kiwei de ki jingthaw ba im ka jingktah ia ka mariang kan duna bha. Ka jingbuh ia ki tiar ki tar ban pynduna ia u pui pui ha ka jaka trei, kum da kaba synreit um, siang rong ia ki surok, khmih ba ki kali kin ym pynmih tдем kaba palat ia ki kyndon ba la buh bad da kaba thung ia ki jingthung ha sawdong katei ka jaka kan iarap ban pynduna ia ka jingktah iaka lyer.

Ki ñiut kiba dei ban lum ha kane ka jaka ba la buh kyrpang kin long beit tang kito ki ñiut ki bym lah shuh ban pynkylla shuh sha kano kano ka sboh lane bor ding. Kumta ka jingmih jong ka jynhaw kan long kaba duna haduh katta katta ha kane ka jaka. Nalor kata, ka ñiut ha ri India barabor ka long ka ba sngem bha bad ryngkat ki jingiada ban pyntreikam ha ka por ba pyntrei ia ka kam, kum ha kaba shah tang ki kali balah ioh jingbit na Pollution Control Board, ban tap ki ñiut ba kit da ki kali bad kumta ter ter, ki pum pum bad kiwei kiwei ki jingpynwit ba juh mih barabor haba pyniaid ia kine ki jait kam, kan duna shibun.

ii) Ambient Noise - Ka jingmih jingsawa ha sawdong ka jaka

La khmih lynti ba ka jingmih jingsawa ka long na jingtreikam ki tiar mashin ba har rukom bad ki kali. Hynrei la khmih lynti ruh ba ka jingmih jong ki jingsawa kan long kaba tang shipor bad kan kham duna da ka jingshim khia jong ki bor kiba dei peit ban buh ki kyndon iada ha ka por pyntrei. Kan don ka jing thung ia ki dieng ki siej sawdong jong katei ka jaka ba la thmu, khnang ban iarap shuh shuh ia kane.

iii) Traffic density- ka jingbun ki kali

Ha ka por ba shna bad hadien ba pyniaid ia ka kam, kan don ka jingkieu haka jingiaid jong ki kali sha kane ka jaka. Hynrei kim don ki jaka ki ba kham kyrpang hajan kane ka jaka ka ban shah ktah ha ka por jong ka jingpyntreikam. Nakata ka daw kan nym don than ka jingktah na ka jingbun kali ha kane ka thaiñ. Yn khmih bniah ruh ba ki kali ba pyntrei ha kane ka kam, ki iaiaid katkum ki kyndon jong ka bor ai jingiada (road safety rules).

iv) Topography and drainage- Ka jinglong jong ka jaka bad ka jingtuid jong ka um

Ki jaka ba la mang na bynta kane ka kam, kam da heh palat haduh ba kan da ktah ia ka jinglong jingman jong ka jaka bad ka rukom tuid jong ka um ha katei ka jaka. Ka la don ka jingthmu ban shna ki kynja ban ne jingker pyllun ia katei ka jaka, khnang ba ka um kan nym ioh tuid shapoh katei ka jaka, bad ka ba lah ban pynmih um jaboh. Ia ka um kaba don hapoh yn pyniaid bad lum lyngba ki nala ba la shna kyrpang. Ka jinglong jong ka jaka kan ktah tang ha ka jylli balah mang ban theh ia u ñiut u bym lah shuh ban pynkylla shuh sha kano kano ka sboh ne bording.

v) Water Quality- Ka jinglong jong ka um

Ka mat kiba lah ban ktah ia ka um ha ka por ba pyntreikam ia kan ka project, khamtam ha ka por lyiur, ki long kumne harum:

- Ka jingtuid ka khyndew na kane ka jaka na ka daw ba kit ka umslap.
- Ka jingbymbiang ka rukom bret ia ki mar shna jingshna bym donkam shuh.
- Ka jingbym lah ban teh lakam ia ka jingtuid jong ki jakhlia kiba mih na ki iing sah nongtrei ba trei ha kane ka kam bad na ki jaka leit painkhana jong ki nongtrei kiba trei ha kane ka jaka.
- Ka jingtuid jong ka umphniang bad ki disel ba mih na ki jaka ba buh ia ki kali Namarkata, da kaba ialeh ban kiar ban pyntrei kam ha por slap, da kaba pynthikna ha ka rukom pyntuid ia ka um jakhlia ba mih na kane jaka, ban buh bha ia ki umphniang ba pyndonkam, kan iarap ban pynduna ia ka jingktah ba mih na kane ka daw.

vi) Ecology- Ka Jinglong jong ka Mariang

Ym don jaka sah ki mrad khlaw ba don ha ka jingma ha ka thaiñ lane ka jaka ba thmu ban pyntrei ia ka project. Ym don khlaw adong ne ki wah ba tuid najan kane ka jaka, kiba lah ban shah ktah ha ka por ka jingpyntreikam. Kane ka jaka ka don ki diengrit kiba lah ban hap pom noh na ka bynta ban pynkhreh ia kane ka jaka. Tangba, kan sa don ka jingthung ia ki dieng ki siej ha sawdong kane ka jylli ka ban kham pynbha ia ka mariang.

vii) Socio economic condition- Ka jinglong jong ki briew bad ka ioh ka kot:

Ka jingpyntrei ia kane ka kam ka lah ban ktah ia ki briew kiba sah marjan lyngba ka jingsawa, ki pum pum bad ka jingkhapngiah jong ki kali kiba iaaid na kane ka jaka. Hynrei, la shem ba ia mynta kane ka jaka ka kham jngai na ki jaka sah jong ki briew. Nalorkata la khmih lynti ba ia ka rukom pyndonkam ia ki jaka ha ka thaiñ, kan long katkum ka Shillong Master Plan bad kan iarap shibun ha kaban pynduna ia ka jingktah ia ki nongshongshnong. La shem ruh ba ka jingktah ia ka imlang sahleng bad ia ka ioh ka kot jong ki briew ka kham duna. Ki jingbat pyrkhing ia ki kyndon kiba la pynkhreh, na ka bynta ka jingiaid shaphrang jong kane ka thaiñ, ka jingpyniaid ia ki kali ha surok PWD bad ka jingiada ia ka koit ka khiah jong ki briew, khnang ban duna ka jingktah ia ki briew.

E. KA ENVIRONMENT MANAGEMENT PLAN – Ka Plan ban pynduna ia ka jingktah ia ka mariang bad ki sawdong sawkun.

Kane ka plan ban pynduna ia ka jingktah ia ka mariang bad ki sawdong sawkun la pynkheh kyrpang na bynta ka project ban pynkylla sboh lane bording and ka rukom bret ñuit da ka ba bud thik pa thik ia ki kyndon balah buh. Kan iarap ban pynduna, ban iada bad ban peitngor ia rukom pyntreikam, khnang ban lah ban pynduna kat balah ia ki jingma ba mih haba pyntrei ia kane ka kam.

i. Air Emission, Reduction and Control- Ka jingiada bad pynduna ia ka jingmih jong ka lyer

- Ka jingpeit bniah ia ka jingpyndonkam ia ki kali kiba heh, ki mashin bad ki kali rit bad ban pynlip noh ia ki ha ka por bym donkam.
- Ban tap tyrpar ia ki tiar trei.
- Ka jingsiang rong ia ki surok bad ka jingsynreit um ban pynjah ia ki pum pum ha ki surok bym pat siang rong.
- Ka jing thung ia ki dieng ki siej.
- Ia ka jinglong jong ka lyer, ha kato ka jaka bad ha sawdong kylleng kato ka jaka yn iai khmih bniah halor ka jingdon jong ki CO₂, SO₂, PM, NO₂ & HC bad ban nym tam ia ki kyndon ba la buh.
- Ia ka lyer jaboh yn lum ha ka gas drainage layer bad yn phah ia kane ka lyer (gas) sha ka gas unit kaba kyrpang ban thang ia ka khnang ba kan ym mih kano kano ka jingktah kaba lah ban pynmynsaw.

ii. Noise Emission Reduction & Control- Ka jingpynduna ia ka jingsawa

- Yn pyntreikam ha ka por mynsngi.
- Ban pyndonkam da ki mashin ba la pyndait da ki tiar pynduna jingsawa.
- Ban pyndonkam da ki jingset shkor (ear plugs)
- Ban kiar na ka jingpyndonkam ia ki horn.
- Ban shna bad maramot barabor ia ki mashin bad ki kali.
- Ban buh ia ki DG sets ha ki karma ba shna kyrpang.
- Ka jing khmih bniah ia ka jingsawa ha u pud jong ka ne ka jaka bad ha ka jaka ba buh ia ki mashin ba kham sawabha. Ka jingthung ia ki dieng ki siej sawdong u pud kan iarap ban pynduna ia ka jingsawa ka ban mih na kane ka project.

iii. Odour control – ka pynduna ia ka jingsma

- Ka jingkhniot / tylliat / ban bha ia ki ñiut haka jaka bret balah shna kyrpang.
- Ka jingtep stet ia ki niut kiba sma.
- Ka jing tap ia ki jaka theh ñiut man ka sngi.
- Ka jingpyndonkam da ka phang ia ka jaka balah mang khnang ban lah ban tap noh ia ka jaka balah dep bad ban thung plang / kynbat, ban ioh pyndonkam biang ia ka jaka.
- Ka synreit da ki dawai kynbat.

- Ban kit ñiut ha ki kali ba don jingtap.
- Ka jingpeit bniah bad pyniaid ia ka jingmih jong ka lyer.
- Ka jingthung ia ki dieng ki siej ha sawdong u pud.
- Ban khmih thuh bad peitbha iaka jingpynkhuid jong ka umjaboh ba mih.
- Ban peit ia ka rukom beh ka lyer, shwa ban pynshong ia ka leachate treatment plant, ba thang ia ki jinghaw (gas), bad haba theh ia u ñiut.

iv. Water quality preservation – Ka jingpynneh ia ka jingbha ka um

- Ban pyndonkam da ki jaka buh bym pei na ka bynta ki umphniang bad ki ñiut ki ñier kiba don jingma.
- Ka jing pyndonkam ia ka septic tank bad soak pit.
- Ka jingpyndait ia ki kor balah ban pyniakhlad ia ka um bad umphniang ha jaka shna kali.
- Ka jingpyntuid ia ka um jaboh balah dep pynkhuid kan long katkum ka kyndon jong ka MSW 2001.

v. Soil Preservation- Ka jingpynneh pynsah ia ka khyndew

- Ka jingkiar ban tih ia ka khyndew ha ka por slap.
- Ka jingpynduna ia ka jingtuid jong ka khyndew ba tih, da kaba tap ia ka, da kaba shna ki ban khyndew bad da ka ba shna nala sawdong ka jaka pyntreikam.

vi. Green Belt Development – Ka jingpynneh bad pynbha ia ki jingthung

- Ka jingpynneh ia ki jingthung jingtep kiba mih ha kane ka thaiñ bad kiba kloi ban heh bad ba rben sla bad don ruh ia ki sla kiba heh.
- Kine ki jingthung ki dei ban lah ban shah ia ki bor jingpynjulor ka mariang bad bym da donkam ban sumar.

vii. Occupational Health & Safety Management- Ka jingpynneh ia ka koit ka khiah bad ki lad jingiada

- Ban pynduna ia ka jinglang jong ka um khnang ba ki skain pyrjong bad ki khniang jingpang kin ym ioh lad ban kha pylleng.
- Da kaba kynshait /synreit ia ki dawai pyniap khniang.

- Ka jingpynbit pynbiang ia ki kali bad ki tiar ki tar man la ka por.
- Ka jingpyndonkam ia ka jingdakhlieh (helmet) bad ka jingphong ia ki juti bad ki jingsop kti.
- Ka jingbuh ki dawai ba lah ban ai jingiarap ha ka por ba kyrkieh (first-aid).
- Ka jingpyndonkam ia ka tiar pynlip ding (fire extinguisher). Ka jinglut jingsep ha ka ba pyntreikam ia ka EMP kan long kumba 31, 13, 025 tyngka.

F) DISASTER MANAGEMENT PLAN -Ki lad jingiada na ka jingpynjutor ka mariang

Ka lad jingiada na ka jingpynjutor ka mariang ka long kaba la pyrkhat, pynbit pynbiang bha khnang ban pynduna ia ka jingktah ha ba don kano kano ka jingpynjutor ka mariang. Ka jingthmu ka long ban ialeh ban pyndonkam ia kiei kiei ki ba don lypa ha jaka trei, khnang ban pynduna ka jinghap shaniah lane ap na kiwei pat ki bor na bynta kine harum:

- Ban iada bad teh lakam ia ka daw jong ka jingpynjutor.
- Ban pynduna ia ka jingktah bad saphriang jong ka jingjutor.
- Ban iada ia ki nongtrei bad ia ki briew kiba sah marjan ha ka por jong ba jia ka jingjutor.
- Ban pyntip sha ki nongtrei, ki paidbah bad ki bor ba dei peit shaphang ka jingktah, bad ban ai jingiada lada donkam bad ia ka bynta ba ki dei ban leh ha ka por ba jia ka jingjutor.
- Ban iada na ka jingwan jong ki juh ki jait jingma.
- Ban khmih thuh ia ki jingbuh record ne jingthoh khnang ba hadien lah ban wad bniah ia ka daw jong ka jingwan ka jingjutor.
- Ban wad ia ki lad ki lynti ban ialeh ban iada na ki jingjutor, ban ai jngiarap kyrkieh ha ka por ba donkam bad hateng hateng ban long kiba pynkhreh ha ka ban pyntreikam ia kine ki lad jingiada.

Ka jingpynkhreh ba janai ia ki lad jingiada na ka jingpynjutor ka mariang ka iarap shibun ha kaban iada bad pynduna ia ka jingktah haka por ba wan jia kine ki jait jingjia. Ha katei ka jaka, ka lah ban don ka jingjia kaba jia ryngkhat (emergency) bad kata ka jingjia ka lah ban jia ha kano kano ka por bad ha kano kano ka rukom

(kum u jumai lane ka jingshlei um, eriong bad kiwei kiwei) lane ki jingjulor na ka jingpluh ding ne jingbthei, watla yn pyrshang ban buh ki jing pynkhreh ba har rukom. Watla, ka khep ban jia ka jingpluh lane ka jingbthei kan duna bha ha ka jaka theh ñuit balah pynkhreh kyrpang (landfill) na ka daw jong ka jingdon ki ñiut ki bym don shuh ka bor ban kylla sboh lane bor ding, hynrei ia kine ki lad jingiada yn pyntreikam lada jia kano kano ka jingjia bymlah ban iohi lypa kum ka jingpluh ding ne jingbthei.

Kaba donkam tam ha ka Disaster Management Plan lane ka jingpynkhreh na ka bynta kana kano ka jingjulor ka long ka jingdon lypa ki lad jingiada kum ki tiar pyllip ding ba biang bad ka kynhun ban peit kyrpang haba don kum kine ki jingjia. Ryngkat ka jingaibor ia kane ka kynhun ban pyntrei ia kaba i donkam ha ka por ba don kine ki jingjia, ban wan bniah hadien ka jingjia bad ban ban pynkhreh ia ki kaiphod halor ka jingjia.