



Public Works Department
Government of Meghalaya

Meghalaya Integrated Transport Project-ni Ningo Salaram Meghalaya
A·doko Sorokrangko Tariani

Environmental Assessment Report

KAMRANGKO KANDIKE TALATANI

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Nianiko Dakgipa : RP / RP
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MITP-NI NINGO SALARAM MEGHALAYA-NI SOROKRANG CHOL 5-KO KANDIKE TALATGIPA EIA REPORT

A. TALATCHENGANI

1. Meghalaya Integrated Transport Project-ara (MITP) Meghalaya sorkarini chu·sokatna siggipa project ong·a, jeni ningon km 2000 mongsongbatgipa sorokrangko namdapatna miksonganiko daka. Project-o, km 650 a·dokni sorokrangko apalbatataniko dakgen aro km 1350 sorokrangko somoi gita nirok-simsakaniko dakgen aro unbaksana gipin namroro-silroroatani kamrangko ka·gen. Ia Project Multiphase Programmatic Approach-ko (MPA) jarike kam ka·na nanggen. Phase-I-o km 266.82 ong·gipa sorokko namdapatataniko dakgen. Department of Economic Affairs (DEA) aro World Bank (WB), MITP-na skanggipa US\$ million 110-ko (loan US\$ million 82 aro State Share US\$ million 28) on·a ku·rachakaha, jeni ningon km 128 ong·gipa a·dokni sorokrangko namdapatataniko dakgen aro unbaksana gipin namroro-silroroatani kamrangko ka·gen. Phase-I ni ningo gimik sorok chol 10-ko seokaha, uarangara Salaram Meghalaya-oniko chol 5 aro Saliram Meghalaya-oniko chol 5 seokaha.

2. Agan-kupattiani kamna mangsonganiko dakgipara MITP-ni Phase-I-o, Salaram Meghalaya-o km 122.68 ong·gipa district-ni mongsongggipa sorokrangko tarina gita DPR-ko tariani ong·a. Ka·mao on·sogipa mongsongbatgipa sorokrang gimik km 122.68 ong·gipana Detailed Project Report-ko tarina M/s Projects Consulting India Pvt. Ltd.-na pakwataha.

Salaram Meghalaya-oniko project-na seokgipa sorokrang

Sl.No.	Division	Sorokni Biming	Gadang	Bakroa Gimik (km)	Tarina Mangsong-gipani Bakroa Gimik (km)
1	N.H. Bye Pass	Shillong-Diengpasoh Sorok	MDR	21.73	11.763
2	Salgro Jowai	Pasysih-Garampani Sorok	SH	48	26.98
3	Salgipeng Shillong	Mawmaram-Nongthliaw Mawmih-Mawlyndep Sorok	MDR	44	41.488
4	N.H. Bye Pass	Laitkor-Pomlakrai - Laitlyngkot Sorok (km 5-gipaoni km 16-gipaona)	MDR	15.52	11.358
5	Nongpoh	Umling-Patharkmah Sorok	MDR	40	31.100
Gimik				169.25	122.68

B. SOROK TARIANI PROJECT-RANGKO TALATANI

3. Sorok tariani project-ko ka·na amenggipa biaprangara Meghalaya a·dokni salaramchipak district dam gittamo ong·a, uarangara East Khasi Hills, Jaintia Hills aro Ri-Bhoi district-rang ong·a. Sorok tarina amenggipani bakroa gimikara km 122.68 ong·a. Sorok tarina amenggipa cholprakkon ka·mao talatenga:

4. **Shillong-Diengpasoh Sorok:** Ia district-ni mongsonggipa sorokara, Shillong-o Itshyrwat sorok bibraoni a·bachengeming Shillong Bypass-ni km 19.00-gipaona dakanga. Ia sorokni bakroa gimikara km 21.73 ong·a. Indiomangba, ia kamo district-ni mongsonggipa sorok km 11.763-kosan man·aia, jean Itshyrwat song sambani Shillong-Diengpasoh sorokni km 2.200-gipaoni Shillong-Diengpasoh sorokni km 13.983-gipaona ong·a. Ua district-ni mongsonggipa sorokni km 13.983-gipaoni bon·chotgipaona jean Shillong Bypass-ona najokea, ua sorokni bakkode PMGSY Program-ni ningo tarienga. Ua sorokoni apalara m 5.0-oni m 5.5-ona ong·a aro sandie nie man·ani gitade ua biap gita sorok tarina a·a on·gipani apalara m 12-oni m 15-ona ong·a.

5. Da·odipetonade ua sorok tariani project-ko ka·nagipa sorokni bang·bata bakrangan sorok a·samko name ro·ong ane tarieming gari ge·sa re·na chake tarigipasan ong·a. Ua sorok tariani project-ko ka·nagipa sorokrangara mitam bakrangde namjaha aro mitam bakrang alamala namkalengkua aro badiaba bakrangde bilongen namjabeaha.

6. Sorokko namdapatani dakna gita da·o donggipa gari ge·sa re·na chakaigipa sorokko gari ge·gni re·na chake tariskagnok aro sorok paktangtangchikon sorok a·samko m 0.9 apale name ro·ong ane tarigen aro sorok paktangtangchin m 0.6 ong·e V-type nala ba gari a·sel ong·aniko champenggipa berako tarigen. Ua sorokko songadamrango m 10.0 apale tarigen aro nok-jamrang bang·gipa biaprango m 11.2 apale tarigen aro sorok paktangtangchin nalarangkoba tarigen. Ua sorok nok-jamrang bang·gipa biaprang jedake Mawdiangdiang, Mawkasiang, Siejong, Tynring aro Mawpdang Nongthymmai songrang gita dakanga.

7. **Laitkor-Laitlyngkot Sorok:** Ia sorok Meghalaya, Mizoram aro Assam-ona dakanggipa NH-6 sorokoni, Guwahati-oni Shillongona dakanggipa NH-40 sorokona dakanga. Ia sorokni bakroa gimikara km 15.52 ong·a aro ia kamo km 11.358-ko man·a jean Laitkor-Pomlakai sorokni km 4.0-gipaoni Laitlyngkot-o ua sorokni bon·chotgipa bak NH-40-o km 15+358-gipaona ong·a. Sorokni apalaniara m 3.75-oni m 4-ona ong·a aro ua biap gita sorok tarina a·a on·gipani apalaniara m 8.5-oni m 9.0-ona ong·a.

8. Da·odipetonade ua sorok jolгимikan gari ge·sa re·na chake tarigipa ong·a. Sorok tariani project-ko ka·nagipa sorokrangara mitam bakrangde namjaha aro mitam bakrang alamala namkalengkua aro badiaba bakrangde bilongen namjabeaha. Sorok tarina mangsonganiko dakgipani apalara songadamrango m 7.700 aro sorok paktangtangchin nok-jamrang bang·gipa biaprango m 8.900 apale tarigen. Ua sorokni sambao song donggiparangara Laitkor, Mawbyinna, Mawtharia, Liewlong, Rangbihbih, Umsaw, Mawpynthih, Maweitnai, Latah aro Laitlyngkot songrang ong·a.

9. **Mawmaram-Mawlyndep Sorok:** Ia sorok NH-106-oni (Mawmaram/Mawsawa Song) a·bachengeming Barapani chiko dimpenggipa sokna skangona dakanga, jean Shillong-oni Guwahati-ona dakanggipa NH-06 sorokona re·angna ramako on·a. Ia sorokni bakroa gimikara km 41.488 ong·a. Ia sorok a·briarigipa biap gita dakanga aro sorokni bon·chotachipak Bara Pani chirikam gita dakanga. Ia sorok, tarimana jamande Shillong songjimaona saliramchipakni Bypass ong·gen aro tourist biaprang jedake Diengiei a·bri, Mawphanlur, Nongkhnum, Mawsynram rong·kol, Mawlyngbna, Sohra, aro Mawlynnong-rangona re·angna ramako on·gen.

10. Da·odipetonade ua sorok jolгимikan gari ge·sa re·na chake tarigipa ong·a. Sorok tariani project-ko ka·nagipa sorokrangara mitam bakrangde namjaha aro mitam bakrang alamala namkalengkua aro badiaba bakrangde bilongen namjabeaha. Sorok tarina mangsonganiko dakgipani apalara songadamrango m 6.00 aro nok-jamrang bang·gipa biaprango m 7.050 apale tarigen.

11. **Pasysih-Garampani Sorok:** Ia sorok Pasyih-o NH-06-oni Meghalaya-Assam sima-ari sambaona dakanga. Ia sorokni bakroa chu·gimikara km 47.00 ong·a aro ia kamo km 26.98-ko man·a jean ia sorokni km 20.00-gipaoni Kopili Damis sambao song donggipa Saphai songo Pasyih-Garampani sorokni km 46+960-gipaona ong·a. Ia sorokni km 0.00-oni km 20.00-onade sorok namengkuani gimin

ia kamo man·chapjaha. Ia sorok Meghalaya-oni Assam-ona re·angna ramako on·a. Sorokni apalaniara m 5.0-oni m 6.0-ona ong·a aro ua biap gita sorok tarina a·a on·gipani apalaniara m 12.00-oni m 16.00-ona ong·a.

12. Da·odipetonade ua sorok jolgimikan gari ge·sa re·na chake tarigipa ong·a. Sorok tariani project-ko ka·nagipa sorokrangara mitam bakrangde namjaha aro mitam bakrang alamala namkalengkua aro badiaba bakrangde bilongen namjabeaha. Sorok tarina mangsonganiko dakgipani apalara songadamrango m 8.500 aro sorok paktangtangchi nok-jamrang bang·gipa biaprango m 9.700 apale tarigen. Ua sorok nok-jamrang bang·gipa biap Pyntei, Biar, Chatwakhu, Nongkroh, Lakadong, Theym aro Saphai songrang gita dakanga.

13. **Umling-Patharkama Sorok:** Ia sorok NH-06-oni a·bachengeming MMR (Mawmgap-Mairang-Ranigodown) sorok bibrao bon·chotea aro ia sorokni bakroa chu·gimikara km 40 ong·a. Da·o sorok tarina amenggipao km 31.1-ko man·a, jean ua sorokni km 8.00-gipaoni ua sorok bon·chotgipaona ong·a aro ua sorokni km 0.00-oni km 8.00-onade tarimanaha. Ia sorokni km 15.00-mangoni km 17.00-onade chongipa chiringni rikamgita dakanga aro ia sorokni km 17.00-oni km 21.00-ona Umtru chibima rikamni jakra aro jakasichipak dakanga, jean km 18.00-o Umtru chibimako gabata. Sorokni apalani m 3.0-oni m 3.5-ona ong·a aro ua biap gita sorok tarina a·a on·gipani apalara m 6.0-oni m 8.2-ona ong·a.

14. Da·odipetonade ua sorok tariani project-ko ka·nagipa sorok jolgimikan gari ge·sa re·na chakgipasan ong·aia. Sorok tariani project-ko ka·nagipa sorokrangara mitam bakrangde namjaha aro mitam bakrang alamala namkalengkua aro badiaba bakrangde bilongen namjabeaha. Sorok tarina mangsonganiko dakgipani apalara songadamrango m 6.00 aro sorok paktangtangchi nok-jam bang·gipa biaprango m 7.20 apale tarigen. Ia sorok Umling, Umdu, Umladoh, Lailad, Umsohma, Tasku Songgitcham, Tasku Songgital, Mawpnar, Jali, Them, Nongladew, Umsong, Nongbirthem, Umtasen aro Umrit songrang gita dakanga.

Table: Project ka·nagipa sorokni bakrangni mongsongbatgipako talatani

S.N.	Sorokni Biming	Sorokni Bak			Da·o Donggipa Sorokni Apalani (M)	Sorok Tarina A·a On·gimin Dongkueng-gipa (M)	Sorokni Rokkom
		A·bacheng-gipa Bak	Bon·chot-gipa Bak	Bakroa (Km)			
1	Shillong-Diengpasoh Sorok	2+220	13+983	11.763	6.00-oni 8.00	12- 15	Mitam alamala namenga aro mitamde namjaha
2	Laitkor-Laitlyngkot Sorok	4+000	15+358	11.358	3.75-oni 4.0	8.5- 9.0	Mitam alamala namenga aro mitamde bilongen namjaha
3	Mawmaram-Mawlyndep Sorok	0+000	41+489	41.488	3.50-oni 3.75	7.20 to 12.0	Mitam alamala namenga aro mitamde namjaha
4	Pasysih-Garampani Sorok	19+980	46+960	26.98	5.00-oni 6.00	12.0 to 16.0	Mitam alamala namenga aro mitamde bilongen namjaha
5	Umling-Patharkama Sorok	0+000	31+100	31.100	3.00-oni 3.50	6.0 to 8.2	Mitam namjaha aro mitamde bilongen namjaha

Table: Project ka·nagipa sorokni bakrango samtangtango donggiparang

S.N.	Sorokni Biming	Sorok Sambao Donggipa Songrang	Songni Mongsonggipa Biaprang	A·a Chu·a ba On·ani	Nosto Ong·atako Man·gipa Bol Pang	Chini Bak	Buring-Bolgrim	Chel·chake Rakkigipa Biaprang	Agan-Talatdapani
1	Shillong-Diengpasoh Road	Ishriyat, Mawdiaing Mawkasiang, Siejong, Tynring, Mawpdang Nongthymmai	km 5+860, 8+680 & 11+600-o skul nok ge 3 donga km 7+800 & 9+000-o gilja nok ge 2 donga	A·bri a·solsol dakgipa 1170-1462 m	Pang 85	km 13+500-o chiring dilsa donga	Sorokni jakrachipak km 3-mang ong·e Itshriyat reserve forest donga	Nil	Jakrachipak buringko nosto ong·atjana gita jakasichipak sorokko

S.N.	Sorokni Biming	Sorok Sambao Donggipa Songrang	Songni Mongsonggipa Biaprang	A·a Chu·a ba On·ani	Nosto Ong·atako Man·gipa Bol Pang	Chini Bak	Buring-Bolgrim	Chel·chake Rakkigipa Biaprang	Agan-Talatdapani
									apalataniko dakgen.
2	Laitkor-Laitlyngkot Sorok	Laitkor, Mawbyinna, Mawtharia, Liewlong, Rangbihbih, Umsaw, Mawpynthih, Maweitnai, Latah, Laitlyngkot	km 4+910, 7+700 & 8+400-o skul nok ge 3 donga km 4+900 & 8+380-o gilja naok ge 2 donga, km 9+010-o Health Centre donga	A·bri a·solsol dakgipa 1690-1835 m	Pang 239	km 13+000-o chiring dilsa donga	Nil	Nil	km 11+550, 12+420, 14+600 aro 11+800-o a·a be·singipa biap donga
3	Mawmara-Mawlyndep Sorok	Mawmaram, Kynsew, Dewsaw, Nongthliew, Laitarted, Dewlieh, Krang, Dewsaw, Nongsawin, Mawlaide, Umbir and Umsaw	km 4+900, 6+275, 10+400, 10+480, 11+570 aro 13+100-o skul nok ge 6 donga km 23+790, 37+050, 44+650, 45+850-o gilja nok ge 4 donga, 4+700, 32+400& 32+700-o Health Center ge 3 donga,	A·bri a·solsol dakgipa 940-1765 m	Pang 53	Sorok joljol Bara Pani Water Reservoir donga	Nil	Nil	km 2+000, 2+600, 2+800, 14+325, 14+519, 14+715, 29+760 aro 29+740-o a·a be·singipa biap donga
4	Pasysih-Garampani Sorok	Pyntei, Biar, Chatwakhu, Nongkroh, Lakadong, Theym, Saphai	km 30+700, 31+315, 35+495, 36+00, 38+110, 43+500, 44+092 aro 44+500-o skul nok ge 8 donga km 23+790, 37+050, 44+650 aro 45+850-o gilja nok ge 4 donga, km 30+340 aro 38+900-o Health Center ge 2	A·bri a·solsol dakgipa 655-1155 m	Pang 8	Sorok sambao na·tok pokkrirang donga	Nil	Nil	km 40+560-o a·a be·singipa biap donga

S.N.	Sorokni Biming	Sorok Sambao Donggipa Songrang	Songni Mongsonggipa Biaprang	A·a Chu·a ba On·ani	Nosto Ong·atako Man·gipa Bol Pang	Chini Bak	Buring- Bolgrim	Chel·chake Rakkigipa Biaprang	Agan- Talatdapani
			donga km 24+040, 31+315 aro 44+500-o community hall ge 3 donga						
5	Umling- Patharkama Sorok	Umling, Umdu, Umladoh, Lailad, Umsohma, Tasku Songgitcham, Tasku Songgital, Mawpnar, Jali Them, Nongladew, Umsong, Nongbirthem, Umtasen, Umrit	km 20+851, 34+500-o skul nok ge 2, km 20+870 gilja nok ge 1, km 32+700-o Health Centre ge 1 km 33+200-o Commiunity Hall ge 1	A·bri a·solsol 147-349 m	Pang 73	km 18+400-o chibima dilsa donga, sorok sambagita kari- kario jokgipa chiriongrang donga	Nil	Sorok km 18- oni km 21- mang ong·e Nongkhyliem Wild Life Sanctuary gita dakanga	km 9+250, 10+101, 11+890, 12+950, 19+445, 23+536, 25+113, 25+158, 25+302, 26+190, 26+880, 28+355, 28+890, 29+153, 29+258 aro 29+766-o a·a be·singipa biap donga

15. Environmental Impact Assessment-ko, kam ka-mitingo nengnikanirangko chagrongnagipa pilakon namedake masina man-a gita sorok cholantinan tariaha. Samtangtango donggiparangko nirok-simsakaniko dakna sorokni paktangtango metre 500 Corridor of Impact-ko donaha aro project influence zone-ko sorokoni km 10 ong-e sorok paktangtangchin donaha.

16. Detailed Project Report-ni bakna Environmental Assessment Study-ko 2019 bilsini October aro December jani gisepo tariaha. Ian Environmental Impact Assessment-ni (EIA) report ong-a jekon World Bank-chi tangka on-enggipa Project-na Operational Policy 4.01-ko nangenggiparangko chu-sokatna tariaha.

C. SAMTANGTANGO DONGGIPARANGKO TALATANI

17. **Samtangtango Donggipa Biaprang:** Project ka-nagipa biaprangara ding-gipa biapo aro a-briarigipa biaprango ong-a. Ua sorokni bakrango donggipa a-arangara burong-bolgrim donggipa, gama-ge-aniko dakgipa aro songdong-a-chagipa a-arang ong-a.

18. Project ka-nagipa sorokrangara Meghalaya-ni Plateau-o ong-a mongsongbate Khasi Hills-o metre 900-2000 chu-gipa bijangchigipa Plateau-o aro Jaintia Hills-ni metre 900-na komigipa a-bri jarekrango ong-a.

19. GSHAP-ni sakkini gitade Meghalaya a-dokara banggrianirang ong-gipa biapo ga-aka. 2002 bilsini Bureau of Indian Standards (BIS) map-ni gitade ia a-dokara Zone V-oba ga-aka. Skang chasongrango ia a-doko 6.0 Magnitude-na baten tarake banggrianirang ong-aha jedake 1897 bilsio 8.1 Magnitude tarake banggriaaha.

20. Project ka-nagipa biaprangni a-ara a-mang rong chikgipa aro gitachakmrang dake a-mang rong chikgipa a-arang ong-a aro a-dubek dakgipa a-arang ong-a. Ua a-arangara nitrogen bang-an baksana organic carbon gnanggipa a-a ong-a, indiba phosphorus aro magnesium chu-onggijagipa ong-a. Ua a-arangara acidic (pH 5.0-oni 6.0-ona) ong-gipaoni bilongen acidic (pH 4.5-oni 5.0-ona)ong-gipaona donga.

21. A-gilsak gimiko mikka wabatgipa biaprangoni Meghalaya-oba damsa donga. East Khasi Hills District-o donggipa Mawsynram aro Cherrapunji-an (Sohra) a-gilsak gimiko mikka wabatsranggipa biaprang ong-a jeon Cherrapunjee-o bilsio 12,000 mm ong-na sipile mikka waa aro Mawsynram-o bilsio 17,800 mm mang ong-e mikka waa.

22. A-doko a-ningni chiko jakkalgipa 0.15% ong-a. Meghalaya-o bilsio a-ningchina chi sengsipanggipa 1.234 BCM mang ong-gen. 2001-ni census gitade, 2025 bilsiona noko aro kam ka-anirango jakkalna nanggipa chi bilsiantio 0.096 BCM mang ong-a. 1.014 BCM mang ong-e a-ningni chiko gama-ge-anio jakkalnaba donga.

23. A-doko chi donggiparangko koila cho-ani aro nok-jamrangoni seltagijagipa chirang jokbaani a-sel moilagipa chi ong-atengaha aro chiko nosto ka-engaha. Koila cho-gipa biaprango donggipa chirang bilongen bisigrakgipa chi ong-a.

24. East Khasi Hills, West Jaintia Hills aro Ri-Bhoi district-rango dingtang dingtang chiakol cho-giparang, chimikrang aro tube well-rangoniko chiko ra-eming CGWB-chi chini rokkomko niani gita ua biaprangni chirang ringna namgipa aro gama-ge-anio jakkalna namgipa chi ong-a. CGWB report-ni gitade chimikni chi on-tisa alkali gnanggipa ong-a. Badiaba bang-gija biaprango chi mesenggipa aro stapgipa

donggipana agrede a·ningni chirang gimikan BIS aro WHO-chi chi jakkalna namgipa ong·a ine parakgipa niamrango gitan ong·a.

25. Project ka·nagipa biapni samtangtango donggipa balwani gimin masina man·a gita Central Pollution Control Board (CPCB) aro MoEF&CC-o dongimin niamrango pangchake balwani rokkomko nianiko dakaha aro ua biaprango balwa donggipara mande songdonggipa biaprangna MoEFCC-chi dongimin NAAQ-ni gadango gitan ong·a. Shillong-Diengpasoh sorok aro Mawmaram-Mawlyndep sorokrango donggipa Mawmaram aro Lakadong songrango PM₁₀ ni gadangara batgipa 68 aro 67 µg/m³ ong·a aro ua apsan songrango PM_{2.5} donggipara 38 aro 39.0 µg/m³ ong·a. Uarangara MoEFCC-chi PM₁₀ na gadang dongipa 100 µg/m³ aro PM_{2.5} na gadang dongipa 60 µg/m³ rangni gisepgriko ong·a. Indiomangba, World Bank-chi PM₁₀ na dongimin gadang jean 50 µg/m³ ong·a, unbaksa tosusaode bilongen batgipa ong·a. Indake gimikko niatgenchimode, sorok tarinagipa biaprango donggipa balwani rokkomna jajrengna nangani dongja.

26. Apsandaken, sorok jolgimikon samtangtango gam·anirangko nirok-simsakna gita kamrangko ra·gataha. Ua biaprango gam·anirangko am·sandie man·gipani gitade ua biapo gam·anirangara CPCB-chi on·gimin niamrango gitan ong·a aro World Bank-ni EHS-o gam·ani gadangko salni somoina 55 dB(A) aro walni somoina 45 dB(A) donsogipa gitan ong·ani gimin ua jolo songdonggiparangna chaktogipa ong·a. Mawmaram songo salni somoio batbeoba 53.1 dB(A)-san gam·anirang ong·aia aro walni somoio batbeoba 40.8 dB(A)-san gam·anirang ong·aia.

27. **Samtangtango Donggipa Sam-Bolrang:** A·doko buiring-bolgrimrang donggipara 77.2% ong·a. 2011-12 bilsini SFR-ni gitade Khasi Hills aro Jaintia Hills district-rangon buiring-bolgrimrang komibatgipa ong·a aro Khasi Hills-o 63.83% aro Jaintia Hills-o 65.88% buiring-bolgrimrang donga. Project ka·na seokgipa sorokni bakrangara a·briarigipa aro a·solsolgipa biaprang gita dakanga je biaprangon a·a donggiparangara sam-bol bang·gijagipa a·a, gama-ge·ani a·a aro buiring-bolgrimrang ong·a.

28. Project-na seokgipa sorokni bakrangara Shillong-Diengpasoh sorokna agrede buiring-bolgrim donggipa biaprang gita dakanggipa dongja. Shillong-Diengpasoh sorok km 3 bakroe Itshyrwat Reserve Forest-ni jakrachipak gita dakanga. Ua biapo sorokko taridapna gita sorok tarina biap on·gimin donga. Uni gimin, ua sorokni bakko taridapani kamko ka·na gita State Forest Department-oniko bilko man·a nangani dongja.

29. Meghalaya a·doko Khasi Hills Autonomous District Council, Garo Hills Autonomous District Council aro Jaintia Hills Autonomous District Council-rang donga aro ua Autonomous District Council-rang Reserved Forest ong·gijagipa buiring-bolgrimrangko rakkina niamrang dona bil donga. Project ka·nagipa sorokni bakrang jinmani kanggipa buiring-bolgrimrang dongja.

30. Sorok tariani project ming 5-ko kam ka·na gita bolrang pang 428-ko den·a nangnaba donga. Pilak den·gimin bolrangni pal tarake dal·ninggipa aro walku salopna man·batgipa bolni rokkomo pangchake bol pangsa den·gipana pang 10 ge·dapaniko dakgen. Project ka·nagipa biaprango gimaangenggipa sam-bolni rokkomrang dongja.

31. **Ripinge Rakkigipa Biaprang:** Meghalaya-o chel·chake rakkigipa biaprang Sq.km 512.61 donga, uarangara dam 2 National Park-rang, dam 4 Wildlife Sanctuary-rang aro dams Biosphere Reserve donga jerangan sam-bol, do·o-mat aro pilak janggi gnanggiparangko naljoke aro ripinge rakkienga. Project ka·nagipa biaprango, a·doko ripinge rakkigipa biap gita sorok dakanggipara Umling-Patharkama sorok ong·a, jean Ri-Bhoi district-o donggipa Nongkhyllam Wildlife Sanctuary gita dakanga. Uana agrede gipin ripinge rakkigipa biaprang dongja.

Umling-Patharkama sorokko tarina mangsonganiko dakgipa Meghalaya a·doko Nongkhyliem Wild Life Sanctuary-ni (NWLS) ESZ (Eco-Sensitive Zone) gita km 3 bakroe (km 18-gipaoni km 21-gipaona) dakanga.

32. **Samtangtango Donggipa Jatrang:** Meghalaya-ara mongsongbate a·brini jatrang bang·batgipa a·dok ong·a aro iano songdonggipa manderang gimikoni 86% de Scheduled Tribe-rang ong·a. Meghalaya a·dokora mongsonggipa jatrang jat 3 donga – uarangara Garo, Khasi aro Jaintia (ba Pnar). Project ka·nagipa district-rango Archaeological Survey of India-chi ripinge rakkina parakgipa gitchambegipa nokrang aro biaprang donga, indioba, sorok tarina amenggipa biaprangode gitchambegipa nokrang aro biaprang dongja.

D. SAMTANGTANGO DONGGIPARANGNA NAMGIJAKO ONG·ATNA KA·DONGSOGIPARANG ARO UARANGKO CHAMPENGANI KAMRANG

D.1 Kam Ka·anirang

33. **A·ani Bakrangko Namgija Ong·atgipa:** Sorok tariani project-ko ka·nagipara sorok tarina a·a on·gimin dongkuenggipani gitasan sorokko apalbatate tarina amengani gimin, kam ka·engmiting somoio samtangtangna alamala bang·gijasan namgijaniko ong·ataigen. Ua project-o, sorok a·samo donggipa nalarangkoba IRC Guidelines-o (IRC, 1995) pangchakeming namdape tarianiko dakgen.

34. **A·ako Nosto Ong·atnaba Donggipa:** Pilak kamrangkon sorok tarina a·a on·gimin dongkuengipaosan ka·na amengani gimin samtangtango bilongbee nosto ong·atanide dongjawa. Kam ka·gipa manderang ma·chakna gita a·tiprangko rikna aro a·a a·kirangko galna a·a bhara ra·giparangko kam matchotmano a·bachengo ua a·ako je kamnan jakkalachim unan on·e donangpilgen.

35. A·a cho·anirangchi sam·bolrangba bon·chapgen, jean wachi kario a·a ruronganirangko ong·atnaba donga aro a·a cho·anichi a·mitimrangkoba gimatnaba donga. Dolong aro nala cho·gipa sambarango donggipa chiring aro chibima rikamrango a·a rurongani ong·naba donga. Uni gimin a·a ruronganiko champengna ba komiatna gita a·ran kario a·a cho·aniko dakgen aro a·a a·mitim donggiparangko donrikeming sorok sambarango a·a gatna nanggiparango jakkalgen. A·a ruronganiko champengna gita chibima rikam aro nalarango silchekchi ka·aniko dakgen.

36. Kam ka·na jakkalgipa bosturang aro to ga·akatgiparang a·a baksa brine a·ako namgija ong·atnaba donga. Uni gimin, contractor-rang kam ka·ani bosturangko name simsake jakkalna nanggen aro to ga·ake a·a baksa brinaniko chelchake rakkina nanggen. Pilak kam ka·ani bosturang aro torangko donchakgipa biapko chi donggipa biaponi komibeoba meter 500 chel·aosa rikgen aro uano nalarangkoba tarigen. Pilak a·a cho·giparangni a·kirangko aro nok-jam aro uandakgiparangko rugipani jabolrangko contractor-rang dongimin biapchina salange galgen.

37. **Chini Bakrangna Namgijako Ong·atani:** Kam ka·gipa manderang ma·chakna rikgipa a·tiprang sambao donggipa chirang nosto ka·ako man·aba donga. Uni gimin, indake ong·aoniko komiatna gita a·ran karini somoiosa a·a cho·ani aro a·kirangko sale galaniko dakgen; kam ka·anio jakkalgipa to aro uandakgiparangko name simsake jakkalgen; mitchigipa chiko rongtalatchenganiko dakgijade galna on·jawa; aro chibima aro nalarango a·a ruronganiko namedake champenganiko dakgen. Sorok sambarango donggipa songni manderangchi chiringoni chiko jakkalna salbagiparangna dingtangmancha gisik on·e kam ka·gen.

38. **Balwako Moila Ong·atani:** Project kam ka·miting somoio a·dimurang bilongen ong·katgen. Uarangko komiatna gita ka·mao on·sogipa kamrangko ka·gen:

- i) Pitch aro ro-ongrangko dingtani aro brinaniko dakgipa biaprangko Meghalaya State Pollution Control Board-oniko NOC-ko ra·eming mande songdonggipa biaponi komibeoba km 1.5 chel·aosa tarigen.
- ii) Kam ka·enggipa biaprang gimikkon chi sataniko dakgen.
- iii) Kam ka·na jakkalgipa bosturang aro ostrorangko salantian nirok-simsakjringgen.

39. **Do-o-Matrang aro Sam-bolrangna Namgijako Ong·atani:** A·a cho·anichi chonchongipa samdimrang, samsirang aro bolrang pang 428-mang gimatako man·gen. Pilak den·gimin bolrangni pal tarake dal·ninggipa aro walku salopna man·batgipa bolni rokkomo pangchake bol pangsa den·gipana pang 10 ge·dapaniko dakgen.

40. **Kam Ka·gipa Manderangni A·tip:** Contractor-rang, sorok tariani project-ko ka·enggipa biapjolo dongipa songoni manderangko kamna rakkina nangani gimin, kam ka·giparangni a·tipara chonbegipa ong·aigen. A·tipko rongtal-an·tale rakkiani aro chu·onga gita chi aro bijoli dongatani; chi donggipa biaponi chel·e paikanarangko rikani; jabolrangko name simsake galani; sana-bananiko dakgipa biapko donani; jo·ongranganiko chel·chake rakkiani; rongtalgipa aro chu·onga gita cha·aniko man·ani; aro naljoke rakkiani kamrang pilaknan contractor-rang daito ra·na nanggen.

41. **Songni Manderangna Namgnirang:** Sorok tariani project-ko kam ka·anichi manderangna mitam namgnirangkoba on·gen. Songni manderang sorok tariani project-ko ka·mitingo, uano kam ka·na cholrangko man·eming songni manderangni tangka-paisa man·aniko bariatgen. Kam ka·miting somoio, gipin biaprangchini re·bae kam ka·giparangde namen komiainaba dongani gimin skia-pora, sana-bana, re·a·doa aro jatni dakbewalrangni bakode nengnikaniko ong·atnagipako namen komibena ka·dongsoenga.

D.2 Kam Ka·ani Gadang

42. Project-ko ka·engmiting somoio garioni wal·ku ong·katgiparang, gam·anirang, tarakbee gari salanichi gari chatinganirang aro soroko to ga·akanirang bariani donggen. Gari-gorarang re·gipa komiani gimin balwako agrepile moila ong·atnade ka·dongsojaenga. Soroko berarang kaanichi, speed braker tarianichi aro mande re·na dingtang tarianichi manderangna naljokaniko namdapatgen. To ga·ake a·a baksa brinanirang donggen, indiba komibegipa ong·na ka·dongsoenga. Agrepile gam·anirangko komiatna gita dingtang dingtang kamrangko ka·gen, jedake gari chakka gamaniko komiatna namgipa sorokko tarigen, mongsonggipa biaprang garini horn-rangko jakkalna on·jawa, sorokko apalbatatanichi garirang bang·bate re·na chakgnok aro sket-changket dakaniko komiatgnok, aro mongsonggipa biaprang bolrangko ge·gen.

E. JEDAKGIPA BILSI-KARINI SOMOIOBA BAIGIPA ONG·ATNA KAM KA·ANIRANG

43. A·doko bils-karirang dingtanganiko namatna gita engineer-rangni kam ka·ani bewalo sorokrangko tarigen. Ua kamrangara:

- Project ka·gipa biapo mikka waana kri nalarangko tarigen,
- Sam-bolrang, a·a aro nok-jam donggiparangko nosto ong·atjana gita sorok tarina a·a on·gimin dongkuenggipani gitasan sorokko taridapaniko dakgen,
- A·kawerango bol ge·gen,
- Sorokni bakrang gimikon a·a rusimgipa biaprang bio-engineering aro engineering aro bio technology-rangko jakakale kam ka·gen,
- Sorok tarimitingo a·a cho·giparangko galna gita dingtang biapko dongen,

- Bera kapengna nanggipa biparango bera kaaniko dakgen; aro
- A-a rurongani aro chi moila ong-aniko komiatna gita a-samo nalarangko tarigen.

F. MANDE JINMA BAKSA AGAN-KU-PATTIGRIKANI ARO SAKKIRANGKO PARAKANI

44. Project-na tarisamsoaniko dakmitingo sorok tariani project-na mande jinma baksa agan-ku-pattigrikanirangko dakaha. Mande jinma baksa agan-ku-pattigrikaniko dakgipa tom-aniko chang 4 aro stakeholderang baksa agan-ku-pattigrikaniko dakgipa tom-aniko changsa ong-ataha jeon manderang sak 101-na baten bak ra-aha. Uano bak ra-giparangara project-o man-chapgipa songrangoni nokmarang, nokko nirokgipa jikgiparang, bading-chiwalaniko dakgiparang, kam ka-e cha-giparang, game cha-giparang aro chatro-chatrirang ong-a. Mande jinma baksa agan-ku-pattigrikpako dakan baksanaba mande sakprakprakmingba uamangni chanchianirangko masina gita agangrikaniko dakaha.

45. Sing-sandianiko daka man-gipa manderang bang-batan project-ko namniktokaia. Project ka-nagipa biaprango songdongenggipa manderang, project-ni dingtang dingtang bakrangoniko songre-songgabatani nambegipa chol, kam ka-ani chol, tourism, tangka-paisani gita tangdoatani aro uamangna namgnirangko on-a ka-dongsoenga.

46. EIA report-ko English ku-sikchi MPWD office-na on-gen aro World Bank-ni website-o mande jinmanaba mesokgen.

G. KAM KA-NAGIPA DOLRANGKO SEOKANI

47. Sorok tariani project-rangko Public Works Department (PWD), Urban Affairs (UA) Department, Department of Tourism, Transport Department aro Community aro Rural Development Department-rangchi kam ka-gen. Janapgimin department-rang ge-prakan, project-rangko kam ka-na chu-gimik jako ra-na gita dingtang dingtang Field Division-rang aro a-dokni skotongni gipin Unit-rangko bak man-chapateming Chief Engineer/Superintending Engineer dakgipa gadangni manderangko Project Director-na (PD) seokgen aro unbaksana nangani kri dakchakaniko on-gipa staff-rangkoba seokgen.

48. Project Director-rang, dingtang dingtang department-rangni Secretary-chi dilenggipa Project Advisory Committee-ni dilanio aro nirokanio kam ka-gen. Unbaksana namgnirangko on-enggipa department-rang jedake Tourism, Agriculture, Police, Health, Education aro C&RD department-rangoniko nodal officer-rangko seokgen. Pilak sorok tariani kamrangkon mongsongbate PWD-chi ka-gen aro UA aro Transport department-rangde technical-ni kamrang aro pilot project-rangkosan kam ka-aigen. Nanggenchimode, chu-gipa gadangni kamrangko ka-na aro project ka-aniko nirok-simsakaniko dakna gita Transport Sector Board-koba bikotgen.

49. Planning Department-ni ningo bikotgipa Meghalaya Infrastructure Finance Development Corporation (MIFDC), bang-a dingtang dingtang department-rang baksa bakrimeming project-na tarisamsoaniko dakani, project-ko kam ka-ani aro project-ko kam ka-aniko nirok-simsakanirangko chu-gimik daito ra-na nanggen. Uan private sector-ni tangka-paisarangko watruratna daito ra-na nanggipaba ong-gen. State Planning Department-an Project-ni nodal department ong-gen. MIDFC-an gimik project-kon tarisamsona aro kam ka-na daito ra-na nanggipa ong-gen aro uan ESIA-ko dakatgen aro ESMP-rangko tariatgen aro project kam ka-mitingo ESMF-ko jarikama jarikja nirokgen. Unbaksana, project tariengmitingo aro kam ka-engmitingo, project-ko kam ka-enggiparangna dakchakaniko on-china gita MIDFC-ni ningo Project Management Unit-koba (PMU) dongen.

50. Pilak sorok tariani project-rango EMP-ko kam ka-na tarisamsogiparangko, project-ko kam ka-enggipa sakantini dakna nanggnirang aro daito ra-na nanggnirangko masina man-a gita janapaha.

Project gimikni PMU-ko PWD-ni Chief Engineer-chi dilenga jean project-ko chu·soke kam ka·na gita daito ra·na nanggipa ong·gen aro Chief Engineer-na Environmental Officer dakchaniko on·gen. PMU-ni dolko Project Management Consultant-ni (PMC) Environmental Officer dakchakaniko on·gen. EMP-ko kam ka·na daito ra·na nangchongmotgipade Contrator-an ong·gen.

51. Contractor-ni Environmental Engineer aro Health Safety Officer-an samtangtango donggiparango naljoke rakkina kam ka·na nanggen. Ua official-rangni sakantio dakna nanggnirang aro daito ra·na nanggnirangkoba EMP-on talataha. PMU staff-rangna project-ni bidingo skie on·a aro kam ka·ani bewalrangko namdapatna nanggen maina staff-rangchi jako ra·na nangenggipa samtangtango naljoke rakkiani kamrangara uamangna gitalgipa kam ong·gen. Skie on·ani aro kam ka·ani bewalrangko namdapataniara project-ni bidingosan ong·aijawa indiba PWD-o ruuta somoirangna kam ka·angna man·a gitaba ong·gen.

52. Sorok tariani project mingprakna Environment Management Plan-ko, EIA Study-o nianiko dakmitingo man·gipa nengnikanirango champengsoani kamrangko talatna gita tariaha. Uarang sorokko tarina skang, sorok tariengmitingo aro sorok tarimane re·na jakkalaona kingking nengnikanirango champengani kamrangko taldapataniko daka. Iarango dakachi sorok taridapengmitingo samtangtangna nengnikanirango on·gipako namatna man·gen. Environment Management Plan-ko Bidding Document-ni bak dakatgen aro jamano uarangko Contractor-ni EMP-ko tarina gita Contractor-rang jakkalgen.

53. Sorok cholprakon Environmental Management Plan-ko kam ka·na gita tangka chamsogipako ka·mao on·soaha. Ia chamgimin tangka-ara Contract-ni bak ong·jawa aro uarangko samtangtango donggiparango naljoke rakkianiko dakani kamna PMU-chi jakkalgen. Ua chamgimin tangka Bid Document-ni bak ong·na nangjawa.

EMP-ko Kam Ka·na Tangka Chamsogipa

S.N.	Sorokni Biming	EMP-ko kam ka·na tangka chamsogipa (Gong)
1	Shillong-Diengpasoh Sorok	29615827
2	Laitkor-Laitlyngkot Sorok	29806164
3	Mawmaram-Mawlyndep Sorok	58795062
4	Pasysih-Garampani Sorok	37960456
5	Umling-Patharkama Sorok	44554300

54. Sorok tarianiko dakengmitingo samtangtango donggiparango bilongbee nosto ong·atjana gita salantio nirok-simsakaniko dakna sorok tarina amenggipa cholpraknan Environmental Monitoring Program-ko tariaha. Ia programme-o Performance Indicator aro Process Indicator-rang donga. Performance Indicator nirok-simsakaniko dakna nanggipa bakko amgen aro kam ka·engmiting somoio agan-parakjringaniko dakgen. Ian project-ko ka·anichi samtangtangna maiko ong·atenga, uko uina dakchakgen. Unbaksana, Process Indicator donga, jean kamrang baditana nambee chu·sokenga, uko nianio dakchakgen.

55. Samtangtango donggiparangni bidingo agan-parakaniko dakna gita, sorok tariani project mingpraknan agan-parakaniko dakani niamrangko donaha jerangkon ka·mao talatenga:

- Samtangtango donggiparanko naljoke rakkina kam ka-enggipani bidingo contractor-chi PMC-na salantio agan-parakaniko dakani
- PMC-chi antigniprako aro jaanti PMU-na agan-parakaniko dakani
- Management-na PMU-chi jagittamprako Audit ka·ani.
- EMP-ko kam ka·enggipa gimikkon External Agency-chi Annual Audit ka·gen aro World Bank-na agan-parakaniko dakskachina gita PMU-na agan-parakgen.

H. BON·KAME TALATANI ARO AGAN-KU·PATTIANIRANG

56. Ua sorok tariani project-rangko World Bank-ni tangka-paisa on·engipachi tarianiko dakgen. East Khasi Hills, Jaintias Hills aro Ri-Bhoi district-rang gita dakanggipa sorokrangko tarianichi district-ni mongsonggipa biaprangona re·angani ramakosan on·aijawa indiba songadamrango tangka-paisani gitaba tangdoatna dakchakgen aro game cha·giparangna bading-chiwalaniko dakna cholkoba on·gen. A·dokni skotong aro district-rangni skotong songrangona maiba kamrang aro nanganirangna re·angna gitaba altubatgnok aro tarakbatgnok.

57. Agan-ku·pattianirang:

- Shillong-Diengpasoh sorokni bak, km 3-mangni gita Itshriyat Reserve Forest-ni arijoljol jakrachipak gita dakanga. Ua biapo sorok tarina a·a on·gipani jakasichipak sorok taridapna gita biap donga.
- Pasyih-Garampani sorokara State Highway-ni bako ga·aka jean sagaloni metre 1000 chu·ao ong·a. Uni gimin, ua sorokara Environmental Impact Assessment Notification 2006-ni (2009, 2011 aro 2013 bilsio namdapataniko dakgipa) ningo Category “B-o” ga·aka. Uni gimin, ua sorokni bakna SEIAA/MoEFCC-niko Environmental Clearance-ko man·a nanggen.
- Umling-Patharkama sorokko tarina mangsonganiko dakgipa Meghalaya a·doko Nongkhyliem Wild Life Sanctuary-ni (NWLS) ESZ (Eco-Sensitive Zone) gita km 3 bakroe dakanga. Indiomangba, ua bako sorok taridapna gita sorok tarina biap on·gimin donga. Agan-ku·pattianiko dakengmiting somoio, ua biap jolo maming do·o-matrangni cha·amani aro do·o-matrangni dongram biap dongja ine Wildlife Officer aro songni manderang aganaha. Indake, ua NWLS-ni ESZ-o sorok tarina gita State Wildlife Board-oniko No Objection Certificate-ko (NOC) nangjawa.