

# INDEX

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*Bio Resources Development Centre Campus, Upper Shillong*

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*State Level Consultative Workshop on Holistic Health Care*



**A'bachengani:** Programme tarisogimin gita "Support to Traditional Health Practitioners for strengthening and capacity building" jen Ministry of Tribal Affairs, Govt. of India ni ning'ao donggipa Article-271 (l) ni tangka on'ako man'e, District-o ba a'doko manderangna samachik jekai dingtang dingtang sabisi sakanchi oniko chel'e rakkina git A'chik sam ba ojarangna Meghalaya a'doko training ba dake mesokaniko skie on'a chanchianiko dakaha. Sak chi'bonga (15) samachik tarigiparang ba ojarangko block prakoniko ia training ba dake mesokanio bak ra'pana seokako man'aha. Iako NEIAH, Ministry of AYUSH, Govt. of India, Shillong, Martin Luther Christian University, Shillong aro Directorate of Health Services, Govt. of India apsan meligrike aro kumingrike ia training-ko damsan ong'ataha. Iako ong'atani miksonganide songrango samachik tarienggipa jedakode dingtang dingtang be'en bimangrangni saaniko masie rae aro mai bol-bijak badia be'enni bakko namatna jakkalachim iako ma'sie ra'dapani aro jatna niksenganiko ra'baana miksonge ong'ataniko kupatianian ong'a.

**Mangsongani:** Samachikni namgniko jelbra jelsuatani aro jatni ma'gitcham pagitcham ni skie donanggiminrangko ripinge rakkiani ong'a.

### **Gipin daka man'ako mesokgipa kattarang:**

- Sam tarie ra'aniko ojarangna ui'dapatani jedakode be'enni dingtang dingtang sabisirangko chel'e rakkina man'gen.
- Be'en bimangko saani jamano rog rogorangoniko chel'chake rakkina nanganiko skiani aro mai sam bijak badia be'enni saako namata iako tarie mesokani.
- Sam tarie on'ako mesokpilskani (saako namatani / saa namatani somoi/ saako namatani be'enko an'sengatani/ saa man'giparangni agandapani)
- Samachik ong'gija gipin dingtang dingtang cholrangchi samko tarie saaniko namatna iarangko ui'e aro skie on'dapani.
- Je sam bijak ko jakkalachim uko lekka o ba 'herbarium sheet' o 'herbaria' tarie donani. Programme ko chu'sokatna sam tarigipa ojarang aro songsul-noksul rangko rime dakdilaniko nanga jedakode bisongni ma'si man'gimin, ma'sigijani be'entangko name an'senge rakkianiko training matchote skie aro simsake rakkina man'gen.

### **Iana agre gipin daka man'ako mesokgipa kattarang ba gisiko ra'na nanganirangara:**

- a. Dingtangmancha dake mesokaniko ba trainingko sam tarigiparangna ba ge'giparangna on'ani.
- b. Ojarangko ma'sidapatani jedakode sagiparang namdapaniko ba an'senganiko man'gen.
- c. Saksa sakgipun baksa ku'cholsan ku'monggrikani ko skie on'dapani.  
Iasan ong'aigija songrango saaniko namatna clinic ba samko indin on'ani biap rango skie on'aniko dakna ia training ong'atani miksonganide ong'a.

**Trainingo/ dake mesokanio donge man'dapani:** Dake mesokanio donge an'tangtangna man'dapanirangara-

- Sam tarigiparangna ba ojarang bil jakkale samko dingtang dingtang be'en ni saarangna jakkale aro skie on'ani
- Sam tarigiparang dingtang dingtang baksa ku'monggrikani daka.
- Songko re'rорогiparangna samko tarie on'anio bariatani.
- Changani ba sapaniko songo donggiparangna on'chengani.
- Obostani kri samko tarie on'ani jedake bostu nama ba namgija ong'ako nigrike.
- Namgijagipa samko tarie ra'ani biddingo skie ra'ani ba bewalko gele katani.
- Samko tarimitingo an'sengani gimin skiani.
- Saksa sakgipinko didigrikani.

## **Dake mesokaniko skie ra'na re'bagiparangna tosusae niani:**

Tosusae niani jedake dake mesokaniko skie ra'na re'bagiparangni agandapani aro miksonganiko ma'sidapaniko on'dape on'ani. Ia tosusaaniko training ba dake mesokani jangchio ba jamano dake on'a man'gen.

### **1. Formal Testing / Niam gita dake niani**

Iako dake iani miksonganji jedake jakrangko rongtal an'tale rakkie ba su'srange herbaria ba sam tarigipa bol bijakrangko lekkao tape donani. Iako chol gnichi dakna man'gen:

#### **(a) Jakkalani bidingo porikka ra'ani**

Skie ra'na re'bagiparangko skie ra'mangiparangko dake mesokatgen. Bisongni masiani ba ui'e man'gniko see rakkigen aro somoi nanga gita man'gen.

#### **(b) Ku'sikarichi porikka ra'ani**

Sing'anirangko tarie ku'sikarichi ba sing'anirangko dakanggen. (Skie ba dake mesokaniko dakmitingo jemangan aganchakna neng'nikachim uamangna dingtang mancha gisiko nangniko on'dapgen).

### **2. Informal Testing / Niam ong'gija dake niani**

Iako classo dake nianggen aro maiba man'dikani dongenga ong'ode uarangko lekkao se dona gita man'gen. Niksamsoaniko aro tosusanki trainingona re'bagiparangna dakaniko dakgen. Iako dakanichi jedakode mikkangchi bariangoni dakchakaniko man'gen.

Training matchote songtangtangchi re'angpilo sam tarigiparang ba ojarang iako songtangtango dakskaa gita man'gen. A'palchini manderang iako nitimskana man'gen. Trainingo dake nianiko dingtangmancha bisongni ma'siani kri table ka'mao gamataniko dona:

Sl. No.	Man'dapaniko ba namgniko man'dapani	Number (Percentage) ba Ritchaprakni bak (10-100%)
1.	Namen man'dapaniko man'aha	
2.	Man'dapaniko man'aha	
3.	Agregija ma'sidapaniko man'aha	
4.	Mamungba agandapani ba aganani dongja	
5.	Ma'sidapani dongsrangja	

### **Trainingo dongani miksonganji:**

1. An'senge donge aro saa man'arangoni chel'e dongani
2. Mande - mandeskaoni batgipa sabisi (jedake TB) aro mande - mandeskaoni batgijagipa sabisi.
3. Rongtal an'talaniko sam bolrangoniko tarimitingo ja'rikani.
4. Dakani bewal ba name chimonge donani bewal sam bolrangko tarimiting somoio.
5. Gipin sam tarienggipa biaprange ku'monggrike dongani.
6. Herbaria ba sam bijakrangko lekka tapani cholrang.

Sak chi'bonga (15) samachik tarigiparang ba ojarangko block prakoniko ia training ba dake mesokanio bak ra'pana seokako man'aha aro jemangan seokako man'ahachim uamang training ba dake mesokanio a'songko dal'roronio man'dapani ong'gen.

TRAINING CALENDAR: (DAKE MESOKANI BA TRAINING)			
SOMOI	DAKE MESOKANI NIANIRANG	MANGSONGANI	BAKRANG
<b>BAK-1: BE'EN NI AN'SENGA ARO SAA KO RA'BAAGIPA SABISI SAKANCHIRANG (MANDE - MANDESKAONI BATGIPA SABISI ARO MANDE - MANDESKAONI BATGIJAGIPA SABISI)</b>			
<b>SKANGGIPA SAL ( DAY I )</b>			
1.00	Be'en ni an'senga aro saa ko ra'baagipa sabisi sakanchirang	<ul style="list-style-type: none"> <li>Sam tarigiparangna ba ojarrangna skianiko on'ani jedake be'en ni dingtang dingtang an'senggijanirangna ba saanirangna</li> </ul>	<ul style="list-style-type: none"> <li>Skiani aro Class ra'ani</li> <li>Skiman'giminko chanchirimani</li> </ul>
	Mande - mandeskaoni batgipa sabisi ni bakrang , champengsoani, aro an'senganiko ra'baapilani jedake TB-saako namatni		
	Mande - mandeskaoni batgijagipa sabisi ni bakrang , champengsoani, aro an'senganiko ra'baapilani		
<b>BAK-2: JAKRANGKO RONGTAL AN'TALE RAKKIANIRANG SKANGGIPA SAL ( DAY I )</b>			
1.00	Jakrango rongtal an'tale rakkiani	<ul style="list-style-type: none"> <li>Sabisi-sakanchiko batroroaniko champengsoani</li> </ul>	<ul style="list-style-type: none"> <li>Skiani aro Class ra'ani</li> <li>Video</li> <li>Skiman'giminko chanchirimani</li> </ul>
	Jakkalgipa bosturangko rongtalatch-engani		
	Champengsoaniko tarisoani		
<b>BAK-3: SAM TARIGIMINRNKO CHANGA SAPANIGITA PALANI GNIGIPA SAL ( DAY 2 )</b>			
2.00	Katomani (Name sam arigiminrangko katomani, bimung seani, kadapani ba tapna gita bimung seani lekka, cha'na gita champengsoani ba chimonge donani, tariani ba bostu tarigimin sal batani, tarik, baita on'a nangani, baitagipa tarigimin sam)	<ul style="list-style-type: none"> <li>Bostu tariani, katomani ba bimung see rakkianiko namdapatna</li> <li>Sam tarianiko nama damo palani jedakode a'palchini re'bagiparangna ma'sidapani ba ui'dapaniko on'a man'gen</li> </ul>	<ul style="list-style-type: none"> <li>Skiani aro Class ra'ani</li> <li>Video</li> <li>Skiman'giminko chanchirimani</li> </ul>
	Dakani bewal ( nianiko, cha'toani aro soatjanagita bewalrangko skiani)		
<b>BAK-4: SAKSA SAKGIPIN BAKSA NANGRIMGRIKANI TRAINING BA DAKE MESOKANI GNIGIPA SAL ( DAY 2 )</b>			
2.00	<ul style="list-style-type: none"> <li>Gisik nangani ba knatimna sapani (Saagipa baksa agangrikani)</li> <li>Maidakgipasaaniko man'engachim, uko niani aro saako namatani</li> <li>Saa man'gipa ni aganani ba tik ka'ani</li> <li>Mahari baksa ku'cholsan agandapani</li> <li>Saako sanenggipa baksa apsan ku'cholsan meligrikani</li> <li>Noksul- songsul baksa meligrikani ba phone ka'e golpo nangrimani</li> </ul>	Saa man'gipa manderang baksa ku'cholsan nangrimgike dongani	

**BAK- 5: HERBARIA BA SAM BIJAKRANGKO LEKKAO TAPANI ARO SAMNA JAKKALGIPA SAM BOLRANGKO  
SAMKO TARIANI NOKRANGO TARIANI  
GNIGIPA SAL ( DAY 2)**

2.00	<ul style="list-style-type: none"> <li>• Sam bolrangko chimmongani</li> <li>• Uarangko ranatani</li> <li>• Chimonggimin sam bolrangko sam tariani</li> <li>• Lekka tariani ( Jekai bol ba bijakni bimung)</li> </ul>	Damsan ia sam bolrangko ba bakrangko ripingani aro ma'sigijako bimung on'ani	<ul style="list-style-type: none"> <li>• Skiani aro Class ra'ani</li> <li>• Dake mesokani</li> <li>• S k i m a n ' g i m i n k o chanchirimani</li> </ul>
2.00	<ul style="list-style-type: none"> <li>• Sam-A'chik tarianiko mesokani ( saaniko namatani/ somoi nangani/ saa namaniko namatani cholrang, training donggiparangni agandapani)</li> <li>• Je sam bolrangko jakkalachim uarangni biddingo dake mesokani</li> <li>• Sam tariani biddingo uarangko dingtang dingtang jakkani miksonganirang</li> <li>• Baita sal ba somoina samko on'a nanga</li> </ul>		
3.00	Training-o ba dake mesokanio donggiparangna tosusaani		

### **1. AN'SENG BALJOKANI ARO SABISINI JA'PANGKO MA'SIE RA'ANI**

An'seng baljokani ine aganon be'en bimang, gisikni biddingo aro songsal ia pilakkon man'gopa aro ian sabisiko man'gijanikosan miksonganija (WHO).

#### **Sabisi:**

Boorse (1975, 1977)-ni talatani gita sabisiara ning'ani bak jean an'seng baljoke donganiko nosto ong'atani ong'a ( jekai, mingsa ba una bate bateba gipin dakna amaniko komiatani). Sabisi inon, ian sabisini rokom ba sam-bolko nangani, ong'siatani ba kragija ong'atani, jensalo sa ding'aniara indake kragija ong'siatani ba dakna amgijaniko ong'ata. Sa ding'aniara sam bolko nanganiko ong'kata jean songsalo mandeni dakna amaniko komiatani gita ong'a.

#### **Ansengbaljokaniko ma'sie ra'ani**

Iano mingbri mongsonggipa an'seng baljokaniko ma'sie ra'ani gnang.

i. **Sam bolchichi samra sampilani biddingo masie ra'ani:** la masie ra'aniara sabisiara joongni asel ong'a jekon Robert Koch janapaha. Jo'ongni a'sel sabisi ong'aniko indake talata.

- Nikna man'gijagipa jo'onrangchi sabisiko ong'atani.
- Sabisi manenggipaonikojo' ongrangko ma'ekate uko porika ka'e nichakram biapo nianiko dakani.
- Ma'ekatako man'gipa jo'ong, jensalo sabisi gri ong'gipa mandeo napa unon apsan dakgipa sabisiko ong'atna man'a.
- Ma'ekatako man'gipa jo'ongko dake nianiko chin dake ba rakie donani.

- ii. **Samtangtango ong'enganiko ma'sie ra'ani:** la ma'sie ra'aniko dakna nokchakenggipa (mande), sabisiko ong'katatgipa aro samtango baditana kingking nanggrikani donga uko niani ong'a. Unigimin an'sengbaljokaniara mongsongbate samtangtang aro Mandeni gisepgriko namen pangchakgrikani gnang.
- iii. **Songsalo chanchibewalaniko ma'sie ra'ani:** la ma'siera'anian songsalni dakarika aro janggitangani gadang aro unbaksana gisiko chanchibewalanai iarang pilakan sabisi aro an'sengbaljokanio man'gopgimin ong'a.
- iv. **Man'gope ma'sie ra'ani:** la ma'sie ra'ani sam bolchi samra sampilani, samtangtango ong'enganiko ma'sie ra'ani aro songsalni chanchibewalaniko ma'sie ra'ani aro iarang pilakkan an'sengbaljokani aro sabisio man'gopa.

### **Ma'sie ra'ani ja'pangrang ( Minggittam dake bak dakatgiminrang):**

An'chingni songsalo an'seng baljoke dongani bakkotok gittam dake donaniko nikna man'gen aro uan dolsa dol gipin baksa nangrimani gnang: Bang'batgipa dol, chanchiatangko dake nigipa manderang aro Ma'sie dakgipa dol.

### **Bang'batgipa dol:**

Ian ramramgipa, skie ra'kugijagipa, Songsalo badiaba kamna dingtangmanchagipa skie ra'gimin ong'gijagipa, jeon sabisiko man'ningsubataaro sana bananiko on'ani chol namen komia. Indakgipa rokomni manderangni manderang sana bananina samni gimin ma'sigiparango sing'chenganiko ba mesokchenganiko dakgija an'tangni chanchiakosan ong'nikrongaia. Indakgipa rokomni manderang, an'tangan chanchichipe samko jakkala, noksulni ba ripengskarangni agana gita samko ra'aia, giljao ba olakichakram noko an'senganina pangchakaia, montol dakgipa manderango pangchakaia, ba basakoba apsan dakanggipa saaniko man'gipa mandeni jakkalgipa samko jakkalpaia. Ia dolni manderangna nuktangni manderangan sana bananiko on'gipa ong'bataia. Bang'bata saaniko chanchichipari sananiko dakronga. Ia obostao mongsongbate me'chikrangna ong'bata, ma'giparang aro bilsi re'anggimin buchumarang jerangan sabisiko nengrae man'bata unon je jako dongachi sananiko dakrongbataia. Iano 70-90 percent manderangde ia dolo ga'akgen. Ia indakgipa sana bananiko dakgipa dolrang gitcham aro gital songsalni gisepoba dongaia. Ia dolni manderang bang'batan an'seng baljokaniara maiba montol dakachi, sabisio naljokna ro'ongko ganachi ba toromo name dakachi ong'bata ba ian rasong gopalosa an'seng baljokanide pangchaka ine chanchia. Ia dolni manderang an'seng baljokani kamna ma'drang mahario, ripengskarango, noksulo aro toromo pangchakkata.

### **Ma'siatango pangchake sananiko dakgipa manderangni dol:**

Ia dolni manderang, mongsongbate skia man'ani gadango ong'kugijagipa songsalo janggitanggiparang ong'bata, mitamrang jerangan dingtang dingtang cholrangko jakkale an'sengataniko on'a man'a. Ia an'sengataniko dakgipa dolrang samni gimin name ma'sigiparangde ong'ja aro indaken chanchichipe kam ka'gipa aro jakma sapatango pangchake sangipa dolsan ong'aia. Ia dolni manderang songsalo greng be'aniko namatgipa dolrang, de an'pakaniko dakatgipa kamalrang, wagam sam on'giparang, uamangni sana bananiko on'ani gipinoni namen dingtanga aro basakoba uamangni gisepo dol dake kam ka'rimanirang donganikoba an'ching nikna man'a. Meghalaya a'dokoba indakgipa sana bananiko on'gipa dolrangko nikgen jean manderangna an'tangtangni ma'sianio aro changanio sana bananiko daka.

**Skia man'gimino pangchake Sangipa dol:** Ia dolo, sananiko dakgiparang niamko jarika, jedake chasong gitalni Scientific-o pangchake, samrang, jekon Allopathic-ba Bio-Medicine ine agana. Iano samko ma'sie on'gipa dolsan ong'ja indiba samni biddingingo aro uko jakalanio skie ra'giminrang je dake Nurse-rang, nirokgiparang aro Physio-therapist-rangkoba man'chapa. Bang'bata, a'songrangon, science-o pangchake samko on'aniara sana bananio changgipa sapgipa-ni dolo ga'aka. A'gilsakni bang'bata A'songrangon an'seng baljokanina science-o pangchake samko on'anirang namen komia ine nikgen. An'seng baljokanina kam ka'engon skatang aro an'tangosan pangchake sananiko dakani a'sel nama sananiko on'ani chol namen komia. Skia man'gipa bang'a a'songrangon niamo pangchake sana bananikosa ra'chakkata.

## **II. SABISI-SAKANCHI NI DINGTANG DINGTANG BAKRANG:**

Iani ningao'o minggni mongsonggipa bakrang gnang:

### **I. Saako ra'bagipa ba mande-mandeskaoni batgipa sabisi (Infectious or Communicable diseases):**

Ia sabisiara saako ra'bagipa jo'ongrang jean jo'ong mangsa oni jo'ong mangsaona batrorona altugipa sabisiko ra'baa. Ia jo'ongrang bato srone ba dintang cholrangchi mandeskaao batna man'a. Uni gimin ia saaniko ra'baaniko 'communicable ba transmissible disease' ine minga jean mande mandeskaoni batna gita altua.

Ia sabisiara saako ra'bagipa jo'ongrang cha'ani , chi , balwa ba dingtang dingtang matburungrangni chikanichi jelbra jelsuatako man'a altua. Ba iara apsan bostuko jakkalanichi mande sagipani sagijagipaonaba batna altua. Ia sabisi batanio dingtang dingtang sabisi rangko ra'baa jekai:

- Chi oni man'gipa sabisirang: cholera, typhoid
- Cha'ani oni man'gipa sabisirang: food poisoning
- Balwa oni man'gipa sabisirang: influenza, TB
- Sabisirang ong'ronggijagipa batgipa ba: Sexually Transmited Diseases (STDs)
- Jo'ong ari chi batgipa sabisi: malaria, kala-azar
- Matburung rangoni batgipa sabisi: rabies

Mande madeskaoni batgipa sabisi ian jedake TB (Tuberculosis) ong'a.

- TB ian an'chingni ka'sop ko nosto ka'a. Gipin sabisirangko tosusaaniko dakode TB saanian a'gilsako gnigipa mande sianiko ra'baa. Bils 2015 o, 1.8 million manderang TB saanichi saako man'e siaha aro sak 10.4 million rang TB saako man'tokaha.
- TB saanian mande mandekaaooi balwa gita bata. Jensalo TB saako man'enggipa gusua, atchinga ba stua, TB ni jo'ongrang balwa o brine an'senggipa mandeko saata aro ia saaniko man'a gita mande rang'sito jo'ong on'tisa mangmang rang'sitmanao sabisiko man'a altua.
- 1/3th a'gilsakni mande gimik TB man'a ong'oba , 'latent TB' ingipako man'a jean TB ni jo'ong be'eno donge mandena saaniko ra'baja aro mandeskaaona batnaba altuja.
- Manderang TB jo'ong donge janggi tanggipa janggi tanga gimiko 10% TB man'a altua. Ba manderang jemangan saaniko man'enga jedake HIV, okkria-cha'asia ba diabetes ba sada jakkalgipa iamangan altua TB saaniko man'ani dongbata.
- Mande TB man'on, chin rang jedake (gusu, be'en an'senggijani, walo gramchi ong'e, jrimani komia) agrepile mesokjanaba gnang. Iani a'sel an'tangko simsakgijani a'sel, TB ni jo'ongrang gipinrangona batna gita altua. Saagipa mande sak 10-15 sakrangna changsano saaniko ra'bana man'a bils 10-15 gimmiko. Saaniko simsakjaode gni atha manderang TB chi sianiko man'gen.

Doctor-rang TB saaniko minggni rangchi bak ka'aha: latent aro active.

Latent TB- Iani jo'ongrang jotton ka'a grigipa mandeni be'eno donga. Ia mamung chin rangkoba mesokja, mandeskaonaba batna altuja, indiba ian jotton ka'ako man'ode saaniko bakan mandena ra'bana man'a.

Active TB- Iani jo'ongrang mamung chinkoba mesokja aro ia mandeskaona batna gita altua.

A'silsak gimikni songdongaoni 1/3rd latent TB ko man'a altua aro 10% ni gita latent TB active TB ong'na gita man'a.

- TB a'gilsakni bils 10-15 chona ba dal'a nigija saaniko ra'baa, indiba ia mongsongbate damberango a'song da'giparango man'a altubata.
- Sananiko man'mitingo, TB na sam on'gipa jean ja dok (6) na ming bri (4) dakgipa dingtang dingtang samrangko on'a iako sagiparangna TB saaniko ma'sie on'a nanga. Samko on'anichi saaniko champengsona aro an'senganiko be'en-na on'pilna man'a.

## TB saa ko masina ba test ka'ani

la saaniniko be'eni bigilo jakwengo bijiko su'e ma'sina gita man'a.



TB dongama donggijako ma'sina doctor stethoscope (be'en ningachi gamako knaagipa) ko ka'sop sambao done jakni ja'dilko rimbomaniko nia. Be'eni bako saani chin aro saa ding'anirang dongama dongja iano pangchake TB saako rim'a man'a altua.

TB ko rim'a man'anio be'eni bako biji chona PPD tuberculin, jean TB ko ong'atgipa sakanchi niko ra'e bijiko jakni jakwengo su'aniko on'a. la ko sal 2-3 ni ja'man jakko sandie gitchak rake rimbomaniko nikon TB man'a ba donga ine ui'aniko rim'na man'a. Indin mangba ia dake niani 100 % TB donganiko on'ja aro kakket ong'e biteko on'ja.

Dingtang dingtang dake nianiko TB donganiko rim'na man'gen jekai an'chi test niani, ka'bak ni x-ray aro ka'sop ba ku'sikni test. MDR-TB indiba ong'ronggipa TB na bate saako rim'na altuja aro bi'sarangoniko rim'na altubatj.

## TB ko sanani cholrang

TB ko sana ong'gipa cholrangko jarikode sana man'a. lara mandeni bilsi, an'seng baljokani, sam ra'ani aro be'en dingtang dingtang bakrango (ka'sop, taning aro ka'rongte) pangchake sam on'aniko daka.

Saa donganio pangchake ia sam mingsa ba mingsa na agre samko mandena on'aniko daka. Samko ra'on ja dok (6) na ra'aniko daka.

Sam ringna matchote ringna nanga, TB saa namaha ong'oba. TB ko sananio TB jo'orang name sijaoba ja'manchibara MDR-TB ona ong'na ba man'a altuskaa. Iako sana bananio 'Directly observed therapy (DOT)' ko ra'na nanga aro iako dakaniosa choljokani man'a altua.

## Tuberculosis (TB) ko ong'atani ja'pangara maia?

- ✓ *Mycobacterium tuberculosis* an TB saako ra'baa. lara balwa gita (jeni ka'sop an TB chi saako man'ahachim), gusuo, atchingo, stuo ba golpo ka'o batna gita altua.
- ✓ TB ra batna gita altua indiba man'a altuja. An'tang kam ka'rimska ba dongska gipa gita TB ko man'ani bang'bata indiba mande a'gittal o komibata.
- ✓ Je manderangan TB donge anti gni (2) na sananiko ra'engachim uamangoniko TB man'aniko ba jelaniko man'ja.



### Tuberculosis ba TB ko champengani

BCG bijiko bi'sarangna TB ko champenganiko man'a su'a. Indi mangba iara TB oniko chugimik champenganiko on'ja aro champenganiko on'ja'manchinabe'enna bang'aneng'nikanirangko ra'baa.

\*\*\* Mongsongbatgipa gisik ra'anian samko matchote ringna nanga.

## II. Saako ra'bagijapa ba mande-mandeskaoni batgijagipa sabisi (Non Infectious or Non Communicable diseases):

Dingtang dingtang sabisirang jedake sko ni saanirang aro be'en ni dingtang dingtang saanirangan mande mandeskaona batja. Larangko ra'baanian dingtang dingtang a'selrang donga.

### Non Communicable diseases rang ko ma'sina ba ui'na gitara:

- Sabirangan mande mandeskaoni batna man'ja
- Jo'onrangan ja'pang ong'ja
- Be'enni je bakrangko nosto ka'na man'a (ra'sitani, ja'dilrang )
- Iako sana man'a indiba namatna man'ja.

### Non Communicable diseases ko ong'ani ja'pang:

1. Hereditary ba ma'gipa pa'gipa oni bi'sarangona batgipa sabisirang
2. Environmental ba wilwilao kam ka'enggipa ba an'chingni dongenggipa
3. Lifestyle ba an'tangtang ni dongani cholon jedake chu ringa, cigarette ba biri ringani, cha'ani ringni bewal namja, be'en bimang rongtal an'tale donggijani rangan a'selrang ong'a.

### Ong'ronggipa Non Communicable diseases:

- Rheumatism ba ja'a jak ni ritchugipa greng rang sa'dikani
- Cancer
- Cardio-vascular disease jedake ka'tongni saanirang: Heart attack ba stroke.

## III. Sana bananiko dakmiting somoio jakrangko rongtale rakina nanganiko ma'sie ra.an:

Jakrangko rongtale rakianichi mongsongbate sabisiko jeloroataniko komiatana man'a. Ian ramram dake nikaigipasan ong'oba indiba iako simsakgijanichi bang'aon neng'nikaniko chagrongronga. WHO A'gilsak-o sagiparangna naljokaniko onanini aganon" Rongtala gnang Simsakanian naljokbatgipa simsakani onga." Iako a.bachengatanichi a.gilsakni pilak bakrangon jako rongtalatchenge sana bananiko dakna a.bachengaha. Jakko rongtalataniara bang'aon namgni donga; jedake Sabisini jeloroaniko champengana dakchaka, Health Care Associated Infections (HCAI)-jedake Hepatitis B, HIV aro jo.ongchi saataniko mangiparang jedake Tuberculosis-ba Kalahajar-rang sangipa bangipa manderango batroroaniko-ba champengsoa.

Jakko rongtalbregija su'srangani"( Jekai, jaksuna jakalgipa bostuko komie jakalani aro chu. ongagita jaksugijani) Jakko rongtalbregija ong'ata. Jensalo sana bananiko on'gipa an'tangtangni jakko sagiparangko sanani ja'mano ba nirokani jamano jaksuna guala unon jo.ong uamangona batna ama.

Jakko jaksuna nanganiko dakengon minggniko gisiko ra'bo jerangan mongsonggipa sabisi bataoniko champengna man'gen: HCAI aro an'seng baljokanina kam ka'gipana gipin chel'chaksona amanirangba gnang. Jakko jaksuna nanganibabang'a dingtangdingtang a'selrango pangchaka, badiaba somoio namgipa jaksuna jakalgipa bosturang komiani ba man'a amgijani a'seloba pangchaka. An'seng baljokanina simsakna nanganio mongsongbate balwa-gita ba ong'rongbewal ranggita bataoniko champengsona nanga. Bang'bata somoion sabisini batroroaniara mongsongbate sam kana jakalanichi ba maiba sabisi gnanggipa jo.ongko dangtapanichi ong'na ama. Bilonge sagipa mandeko sananio chu. ongagita simsake kam ka.ani dongjaode kena nangani bang'bata.

Batreronan amgipa gipin jo.onggrang(je dake Humanimmuniodeficiency Virus(HIV), HepatitisB) aro sana bananiko nirokgipa batna amgipa jo.ongrangoni jedake Tuberculosis ba kalahajar simsakna nanga.

- i) Jakrangko pangnan an'chi nangode, be.en-ni minsu nangode ba a'pal re'ani jamano pangnan sabonchi chio rongtale jaksuna nanga.
  - ii) Sabonchi chio rongtale jaksuahaonjak rongtalaha ine rana man'gen.
  - iii) Sam on'ani ja'mano pangnan alcohol gnangipachi jaksuaniera ba jako ripakaniara jo.ongni bataoniko champengsona man'a.
  - iv) Alcohol gnangipako man'jaode sabon baksa chio jaksuna nanga.
  - v) Jakko rongtale rakiani;
- 
- a) Sagipako dangtapani skang aro dangtapani ja'mano.
  - b) Sagipako sanani bostuko jakkalani jamano glove-ko ganoba ganjaoba.
  - c) Be.en ni minsu ko ba ki.e-ko dangtapani jamano, mata pariko nangatani ja'mano aro matako pario sam nongatani ja'mano.
  - d) Pari gnangipa sagipaoni sakgipin sagipaona re.angani ja'mano.
  - e) Sananio jakalgipa bostuko ba uko donchakgipa biapko dangtapani ja'mano.
  - f) Glove-ko okgalani ja'mano.
  - vi) Pangnan samko ba jakko rim'ani ja'mano alcohol-gnangipachi jako ripakna ba sabonchi chio jakko name jaksuna nanga.
  - vii) Sabon aro alcohol gnanggipa jaksuaniko skatang donmilamna nangja.

## **JAKRANGKO RONGTALE RAKKIANIAN ALTUBATGIPA SAA SINGARANGONIKO CHAMPENGANIAN ONG'A**



## Jakko chi aro sabon chi rongtale dongani cholrang

Jakko su'srang mitingo somoi on'a nangani : 40-60 second-rang



Jakko chichi  
su'srangbo;



Jakni gimik bakrangko  
sabonchi nongbo;



Jakpa samsaoni  
samgipinona reprepbo;



Jakrani jakpako jakkasini  
jakni kosako done  
jaksirangko reprepbo;



Jaksirangko jakpa  
jakraoni jakasiona  
mikkanggrike;



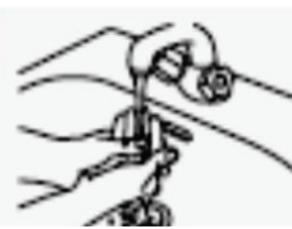
Ki'sangni jaksirangko  
jakparang baska  
mikkanggrike;



Jaksi bima dal'gipako  
jakpa jakrachi wilwile  
reprepbo;



Wilwile nate, mikkang,  
ki'sang jakrani jakko jakpa  
jakkasio done reprepbo;



Jakko chi- chi  
su'srangbo;



Jakrangko ba'rao  
/towelo ebakpo;



Chi jokenggipa pipeko  
epakgipa ba'rachi  
/towel chi tekbo;



Nang'ni jak dao  
rongtalaha;

## Jakko spirit ba chu chi rongtale dongani cholrang

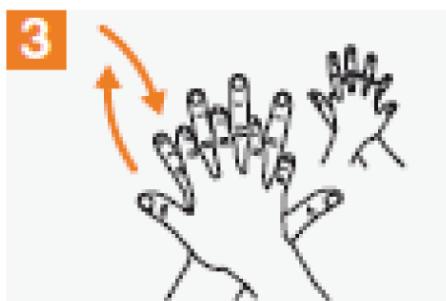
Jakko su'srang mitingo somoi on'a nangani : 20-30 second-rang

Dettol chamosako chi adha litreo bottle o ba chu ko chi baksia brine jakrangko sagiparangko sana skang reprepchengbo



A Jakni jakpa gimikna ia tarigimin bostu ko gipe nongchengbo;

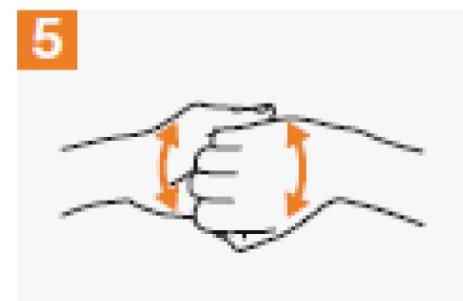
F Jakparangko name reprepchengbo;



Jakrani jakpako jakkasini jakni kosako done jaksirangko reprepbo;



Jaksirangko jakpa jakraoni jakasiona mikkanggrike;



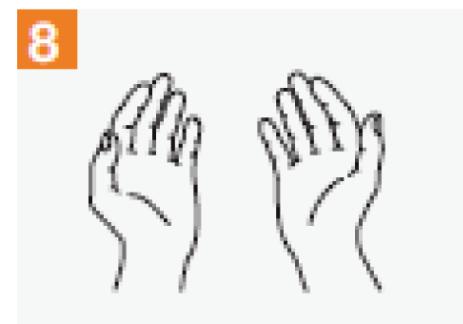
Ki'sangni jaksirangko jakparang baksia mikkanoorike;



Jaksi bima dal'gipako jakpa jakrachi wilwile reprepbo;



Wilwile nate, mikkang, ki'sang jakrani jakko jakpa jakkasio done reprepbo;



Jak ran'a ni ja'mano, nang'ni jak rongtalaha;

## **1. Sagiparangko sanmitingo gisiko ra'na nanggnirang**

Saa donggiparangko sanmitingo jakchi dangtapna nangmitingo saaniko batatna champengsoani

- Rongtala gloves rangko gana nanganirang saa donggiparangna simsakmitingo
- Gloves ko gana nangani saagiparangko sanmitingo



## **2. Balwa chi batna man'gipa sabisirangko chapengsoani**

- Balwao donggipa jo'ongrangko champengsoani jean chonchonachim jekai balwao donggipa jo'ongrang (5 μ ba unabate chona) ba a'dumu jeo sabisirangko ra'bana man'gipa jo'ongrang donga



## PROCESSING TECHNIQUES-Ba dingtang bimang ong'atna tariani cholrang.

i) . Sam-ni Bol pang aro bijakrangko chimongani.

Samko chimongani tik somoi ba kari gita ong'na nanga ba ong'jaoba namgipa bostuko tik somoi-o man'ode ong'taia. Samko bang'e man'aniara bolni dal'ani ba silanio pangchaka.

Basakobade badiaba bolrang samna choligijagipaba ong'naba gnang. Chimongani nambatsrangipa somoi( Akari ba sal somoi) Samni bol baditana dal'aba gamchatani gnang uko nichengna nanga.

### ii) Chimongani somoi;

Bang'a boloniko sam ra'engon dalkari ba silkariko nichengna nanga. Jedake, tik ong'a bimangko niani (alkaloids gnanggipa Stroumonium)-ko akodechu'gimik bibalni balkari aro mongsongbate iako pringo akgenchiomode alkaloid-rang, attamo akana bate bang'bata.

Dingtangdingtang bolkorana namgipa somoirangkoka'mao mesokatenga.



Sl. No.	Bolni bakrang	Chimongani somoi
1.	Ja'dil Ja'terang	Balroro karini ja'man, bibalani ja'man aro bite nangani ja'mano nambatsranggipade ong'aia.
2.	Bigilrang	Balrorokari( bijak ga'akan ja'man) ba rittim kari ( bijak name chas-rangna skang)-ko seokbatronga.
3.	Ja'dil aroa'ningchi sikonanggipa jean bijangchio ja'ta daka	Bilsi gimikoniko: Bibal balna skangmangmang. Bilsi changgipaoniko: balroro karini somoio ba bilsi gipinni a'ran kario. Bilsi gni ba una bate tanggipa boloniko: Balroro karini somoi ba bilsi gipinni sin'kario ba gittamgipa bilsini chatainio.
4.	Bijakrang	Bibal balengmitting somoio aro ran'mitting chimongna nanga. Namabatade cheklsi gnang ake uko ja'mano gallo nambata; basakobade pringo ako nambata, Mesokna gita; Solanaceous bijak.
5.	Bibal	Ran'mitting somoio aro sal jatchio, ripamchi dongjao ako nambata.
6.	Bitchi aro bit-erang	Chimonganiko minani ja'man ba minchare-o chimonga nama.. Bite mine breatama bretkuja uko nina nanga maina seng'nangkale namchachao chimongo nambata, Mesokna, cardamom and Strophanthus.

### Kamao sam bolko chimongmitingo aro rakkimitingo dakna nanggnirangko sulsul mesokatenga.

- ✓ Soaoniko komiatna sam gittang chimonggiminko a.ao nangate dona nangja. A.ningoni ko bikotgipa bakrang( Jadil)-o a.mang nangoniko bikan chimongani tap galna nanga
- ✓ Chimonggimin bosturangko rongtala dokrao, kildingchi tarigimin jolao ba gipin bosturangko donbringijao dona nanga. Chimongani jamano gittang samni bolko name dake nichengna nangen, ian nangbregijako aro so.anggiminrangko galani aro a.mang nanganirangko su'galani,ran'atani aro ratani ong'a.
- ✓ Chimongimin samni bolko jo.ongrangoni, a'kincha'aoni, do.orangoni aro gipin jonturangoni naljoke dona nanga. Uansan ong'aija nok-o jila kaarang dongode uarangoniba chel'ate dona nanga. Chimongram biap, tarichakram biapona aditan chel'ode,gittang chimonggimin samni bolko salo ba balwao ran'ate ra'bana nanga.
- ✓ Samni bolko ra.anio mana dipet namtiktaka somoi-o rana man'ode nambata, jedakode ripamchi, mikka aro dim'gopanoni naljokgen. Maibakai chimongengmiting somoi-o mikka nange sosiode uko man'a dipet nokningona ranapna nanga. Jedakode uarang dime jo.ongchi nosto ong'atako man'jawa.

- ✓ Ratgipa bosturang, ra'chakanirang aro gipin raani kolrangko rongtale rakina nanga aro nosto ong'aoniko champengna nanga un baksa a.ao donbekna nangja aro gipinrangchi soataoniko champengna nanga. Uarangko soatgija ran'a biapo ba jo.ong, do.o, a'kin aro gipin jila kaanirangoni naljoke rakina nanga.
- ✓ Ra'gimin gitang bolni sam ko ran'ate aro uko rongtalate, rongtala dokrao ba gipin ra'chakanirango uko tarichakram biapona watatna nanga.
- ✓ Bolni sam mingsana batode uko dingtangtang biapo chimonge watatna nanga. Ge'sa gegipinko donrime soataoniko pangnan naljoke rakina nanga.
- ✓ Pilak ra'chakanirang chimongengmiting somoio rongtalna nanga aro batanggimin somoi-o chimonggiminni soanirang baksa brinna nangjwa. Plastic-o ra'chakna nangode uno chi ma'bakama ma'bakja uko name nichengna nanga.
- ✓ Ra'chakaniko jensalo jakalja unon uko ran'ate donanbaksa jo.ong, akin, do.o rang ba gipin jila kanirangoni naljoke dona nanga. Jakalani maiba nosto ong'a ong'ode ba siketketode ba seksekode samni gunko komiatna ama.
- ✓ Badiaba bako soa dongode bolni samko ra.engmiting somoion galna nanga ba uko tariengmiting somoion name nichenge ra'na nanga, ong'jaode soatanichi samni gunko gimmatgen.
- ✓ Ra.engmiting somoio nosto ong'atanichi samni gunko on'gija dakataona sokatgen. Uni gimin ra.engmiting somoion iarangna simsakna nanga;
  - a) Gapdugae sikaniko
  - b) Tik onge donaniko

### **3. Skanggipa dakna nangchengipa**

- ✓ Ra'gimin ba chimongimin bolni samrangko tarichakram biapona sokahon ra'ongkatna nanga aro oprake dona nanga.
- ✓ Tarichakram biapo bolni samko mikkarangoni, a'dimuoni ba jeba nosto ong'atanioni naljoke dona nanga.
- ✓ Bolni samko ran'atna nangosan salo ramna nangaia.
- ✓ Chimonggimin bolni samgitangko man'a dipet taraken tarichakramona sokatna nanga je dakode nosto ong'aniko naljokatgen.
- ✓ Chimonggimin bosturangko nangani kri Refrigenerator ba rachakanio taraken nangani kri donatna nanga.
- ✓ Mana dipet jakkalgiminko riping dugana nangjawa, uarangko a'songtangni je bakonaba ba joltangonaba ba jeba jakkalgiparangona watatna nanga.
- ✓ Pilak bolni samrangko skanggipa gadango tarichengengon uko name dake nina nanga aro maiba gipin bosturang brindapani dongode uko galna nanga.
- ✓ Ran'atgimin bolni samko name dake nie, a'mang nangoniko, ro.ong gnangoniko ba gipin jabolrang manchapaoniko ginchirao ba chekanio chek-na nanga. Ginchira ba chekani bostuko pangnan name ba rongtale rakina nanga.
- ✓ Pilak chek-gimin bolni samrangko sognioni naljoke rakina nanga aro jo.ongchi, akinchi, do.orangchi aro gipin jila kaanirangchi nosto ong'ataniko naljoke rakina nanga.

### **4. Ran'atani**

Jensalo sam gittangko ran'atenga unon chijamaoni ko chelchakna nanga jedakode nosto ong'atani ba sognioniko naljokatgen.

#### **Samgitangko ran'atani adita cholrang**

1. Bangbangipa biapo( salakimo);
2. Ran'atna donchakani barenggipa ong'na nanga, silgringni kutiri ba nok dalan ong'na nanga.
3. Nanga ong'ode salrakaoba ramna nanga.
4. Ran'atchakram kuturio aro Solarchi ran'atanio dona nanga.
5. Wal'samo indiba wa.aloni chel'dangkale dona nanga.

Jensalo namchacha ding'aba sin'ani ba chijimanirangko tik ong'e rakia unon nosto ong'aoniko naljokata. Ran'atmiting somoi-o ding'atani tik ong'a ba ong'gijanioba samni nama namgijanide pangchaka. Salakimo ran'ato bijakni ba bibalni rong re'aniko komiata; aro badiaba bolni sam biba-o ong'kate gimanggipa ong'ode uko bang'gijasan ding'ao dona nangaia. Ran'atengmiting somoi-o uko s.e rakina nanga. Maibakai uko parangao ba a'palo rame ran'atna nangode barenge ramna nanga aro somoi gita pil'na nanga.

Chu.ongagita balwako man'a, ramchakgipako a'paoni aditan chu'kale dona nanga. Bolni samrangko apsan somoion man'a dipet ran'atna nanga.

Bolni samko ramengon a'pachapchap ramna nangja. Rong'kreko ba cement-ni kosako ramode sam ko donchakna talpulin ba ba'ra ba ampatchirangko jakalna nanga. Ramchakram biapo jo.ong, akin,do.o aro jila kaanirangoni chel'e rakina nanga.

Nokningo ramaniko dakengon ramani somoi, ran'atani ka'sinaba ding'ani aro gipin gipin dakanirang bolni bako pangchake(Jadil, bijak, cheksi ,Ja'te, bibal ba ugitarang)-o pangchakgen. Mitam sam bibana jrongaigiparangko nanga ong'ode to-ko nongna nanga.

Walsamo ramaniko dakengon samgittang bostuko wal'kuoni aro gipin samgitangrangoni chel'tange rakina nanga.

## 5. Dingtang ma'ekatna tariani;

Mitam samgittangrangko ma'ekate tarina nanganiara; Bolni bako ra'giminoniko rongtalate namdapatna; ramani somoiko komiatna; Ran'krake nosto ong'aniko champengna, gipin jo.ongrangoniko, bostuko bisi ong'aniko naljokatna; aro samna jakalanio dingchikgpa ong'atna.

Mongsongipa ma.ekatna tarianio dakaniara baseaniko dakani, jadilni bigilko okeani aro ja'dil chategipako galani, chio ritani ding'atani, sosiatani, bibao chadogiminko chimongani, den'tongani aro gipin rang. Dakrong bewalo altue samko jakalanio cholrangara jedake,

- ✓ Ding'aba ka'sinatgimin chi-o samko donaoniko ra.aní,
- ✓ Kningatgiminniko bitchiko ra'ani.
- ✓ Ran'giminko gindi dakatani.
- ✓ Binekatgimin gindiko chi, to ba bija bitchi baksa brine jakalani.

Tarianiko dakna gital chasongni bosturang jean dam komiani indiba jakkaltogipa ong'skaa aro unbaksa altuen man'a ama uarangchiba tarie jakalna man'a.

## 6. Samgittangrangko tariani;

Jadil, ja''te; ranatani, kningatani, chipe donani aro rakiani.

Boloniko bikotgiminko ripinge dona altua ongja maina uarang dadimit chaninga aro jo.ongrangchi nosto ong'ataniko man'ningbata. Uni gimin uarangko jakkalna samni bimango donan baksa tarie donanio sappipa ong'na nanggen.

## 7. Tarie donani:

- a) Samni bostuko tarie donani ko name rakigimin ran'gipa aro teng'aoni naljokatgipa ong'na nanga aro nanga ong'ode balwako jakalna nanga un baksa a'kin cha'aoni ba jo.ongrangoniko naljoke rakina nanggen.
- b) Donchakgipa biap rongtalna nanga, bretna nangjawa aro altuaie rongtalatna man'gipa ong'na nangen. Samko donchakani, pakmaoni adita chel'na nanga, jo.ongrangchi nosto ong'ataniko manjanagita somoiantian nirokna nanga.

- c) Somoi gita nirokanichi bostuko nosto ong'ataoni naljoke rakina man'a aro tepani (packing) somoi-o gipin bosturang baksu donbrina nangjwa.
- d) Tepchakna jakkalgipa bostu ran'a aro rongtalna nanga. Samko donchakni pangnan namgipa gadangni bostu ong'na nanga.
- e) Ran'gimin bolni samko ran'a biapo aro namgipa kuturio jean sin'ani ba ding'ani tiktak ong'a uano dona nanga.
- f) Akdaldal bolni samko dinga komigipa biapo jean 2-8 degree celcius, ka'sinao rakina nangipa ong'oba uko -20 degree celcius-na komiao dona nangjawa.
- g) Samrangko jean kningatgimin ong'achim uarangko a'dimu aro balwa nappijagipa ra'chakanio dona nanga.
- h) Bolni bakos aro leka ni dokrao maming saloba kningatgimin samko donabe.



### **Sam bolrangko ran'atani**



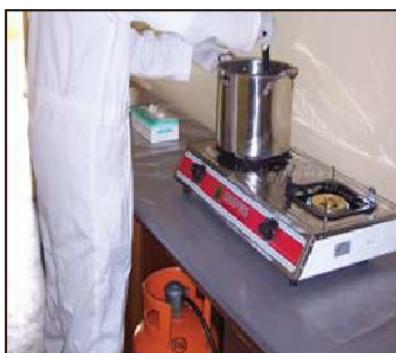
Salo rame doanani



Sam bolrangko ran'e donani biap



Ning'ao ran'e rakkiani biap aro dingtangatani



Gas stove/ wal'ku ong'atgijagipa chula  
jeon sam bolrangko tarina man'gen



Sam bolrangko rongtalipa biapo  
katomani



Sam bolrangko katomani ian ka'sine  
dakani ong'a

## **Segipani/ Dakgipani bimung: Ms. Anke Weisheit, Mbarara University of Science and Technology (MUST), Uganda**



**Sam bolrangko katomani (ka'sine dakani ong'a).**

### **8. Sam tarigiminko katomani aro bimung on'ani:**

Ritchue sam tarigimino on'a nanganirangara:

- Sam ni bimung
- Sam A'chik tarigipani bimung
- Mai bakko jakkala (ja'dil, bijak, bibal, ja'teng)
- Bakrang ba baita nangana jakkala
- Maibarangko on'dapama
- Katomani tarik
- Badia tarikna skang jakkalna man'a
- Baitagipa tarini

Katomani bostu ko rongtale rakkina nanga. Rongtalaniko dakna katomgipa bostuko skanggipa chio rite (121° minute 15-20 rangna) ba chi ding'ani bibachi (121° minute 15-20 rangna) dakna man'a. Rongtalgipa bottlerangko ran'ate biap rongtalgipao chimonge dona nanga.

## **VI. GIPIN AN'SENG BALJOKANIKO BE'ENNA ON'GIPA SANANI BIAPRANG BAKSA MELIGRIKANIKO MESOKANI**

Sam A'chik tarianiko aro sam tarianiko nangrimgrikanian manderang baksan meligrikaniko ra'baanian ong'a. Sam A'chik tarianian manderangna bang'a sananiko ra'baa jedake TB, diphtheria, pertussis, tetanus, measles, aro polio. Bi'sarangni diarrhoea ORS ring'anichi namaniko on'a ba CHCs/ PHCs o sananiko man'a bilonge sagiparangna. Sam A'chik chi an'senganiko man'jaenga ong'ode gipin sana bananiko am'skana man'a jedake diabetes, greng be'anina indakgipa saarangna gipin sananiko on'skana nanga.

## **VII. MANDERANG BAKSA NANGRIME BA MELIE DONGNA CHANGA SAPANI:**

Melie dongani ba nangrime donganian an'seng baljoke dongani chin ong'a. Iani miksonganide jedakode mande sagiparang ba sananiko on'giparangna bilake meligrikaniko man'anian ong'a. Saa man'giparangna ian kenaoniko naljokani, tom'tomani aro made ra'aniko on'anian ong'a. Iani mandena an'tang nangniko ku'patiani ong'a. Meli nangrime donganian be'enko an'seng baljokani rakkiani ong'a.

An'seng baljoke donggipa mande ka'mao on'gipa kattarangko gipinaba agane on'a:

- Chakchike ba name knatimna sapani ( Saagipani aganani) : lara mandeko an'seng baljokoaniko on'anian ong'a. Saa donggipa mandena ian simsakaniko aro an'sengdapaniko on'anian ong'a.
- Saani ra'baani, niani aro namataniko saa man'giparangna aro madrangrangna name tale agana nanga.
- Saa man'enggipako pangnan an'tangna chanchina somoi on'a nanga.
- Pangnan madrang ba maharirang baksia melie agangrikbo.
- Saako namatgipa ba sanenggipana melie agandapaniko bilonggipa salrangoba on'dapbo.
- Dingtang dingtang cholrangchi sana man'aniko man'a sin'dapaniko man'rongbo
- Sam ringani ko name agandape on'bo

### **Gipinrangni chanchiani aro manderangna phone ka'e golpo ka'ani cholrang:**

1. Ripeng ong'e salamko on'rongbo: Phone ka'aton pangnan gipinrangna melie salamko on'chengbo. Phoneko ra'chakon pangnan ka'atgipana mitelaniko aro maidake dakchakaniko nangachim iako sing'rongbo. Iako dakani chin ara jedakode na'a gipinrangni nanganirangna simsakani chin ong'a.
2. Phoneko ka'atenggiparangna gualeba sengkana aganabe: Iako dakanichi manderang gisiko saa ba seng'atna sikengode name agangrike ba golpoe sing'chenganiko dakbo. Iako jedakode sengenggipa ma'sie phone senggen ba ja'mano kemako am'bo.
3. Phoneko ra'chakon phone ka'atenggipana aganchakaniko on'bo: Phoneko ka'atenggipana aganchakaniko on'bo jedakode an'tangni gisik nanganiko mesokani chin ong'a. Knatimengon "anga ma'sia", ba "anga nika ba ui'a" ine aganchakaniko on'rongbo.
4. Bimungko ma'sina jotton ka'bo: Mandeni bimungko minge agananian mande gisiko nangchongmotenga ine chinko mesokani ong'a. Golpo ka'on phone ra'chakgipani skanggipa bimingkoko ka'chape mingna nanga.
5. Phoneko donaton ma'sigrike ba name donatna nanga: Phone ko golpoe donanian an'tangko name mesokanian ong'a.
6. Phone ko donon name aro melie dona nanga: Mitelani ba mande ni bimungko ra'chape ra'e mitelanian sagipina gisiko ra'ani ba gisiko nangani mesokaniko mesoka. Ba golpo ka'ani ja'mano jedake "mitela..... maiba dakchakaniko ba ma'sianiko nanga ong'ode angna phone ka'atna man'diknabe" ine agane paraknaba man'a.

## **VIII. SAM BOLRANGKO CHIMONGANI ARO LEKKAO SITJETE DONANI BIDINGO SKIE ON'ANI**

### **Bakrang:**

1. A'bachengani
2. Nangani bosturang jedake sam bolrangko chimongmiting somoio
3. Sam bolrangko chimongani
4. Sam bolrangko ran'atani
5. 'Herbarium sheet' ba lekka ningao chimonggimin sam bolrangko stapate donani

### **I. A'BACHENGANI:**

Herbarium ni miksonganide ran'gipa sam bolrangko chimongani, uvarangko bimung ma'siani and ma'sidapanisan ong'a. Gipin kattachi agandapode uvarangara sam bolrangko chimonge ran'ate, lekka ka'sine sitjete aro lekkao tape donaniko miksonga. Iana sam bolrang chona ba dal'arangko chimonge dona nanga.



**Fig1: Kosako on'gipa maidake sam bolrangko lekkao stapate donachim iako mesokenga**

#### Iako dakani miksonganirangara jedake:

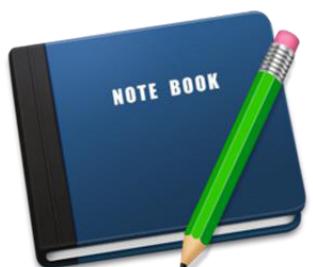
- Sam bolrangko ma'siani, jedake algae (chiringo man'gipa chirinik), lichens (bol dal'arango chagipa) ba fungi ( dadimit dake chagiparang)
- Ma'sidapataniko sam bolrangna biap damsao aro somoio cha'giparangna
- Badia biap, aro mai somoio cha'achim iako agandapaniba ong'a Minggipin nanggipa bosturang ara:
- A'palo ba a'bao sam bolrangko chimongani
- Sam bolrangko ran'atani ba ka'sine stapatani
- Lekkao ba 'herbarium sheet' o tapani
- Bimungrangko on'ani
- Ja'manchi jakkalanina chimongani

#### 2. Sam Bolrangko Chimongani Aro Ran'atani Somoio Nanggipa Jakkalani Bosturang

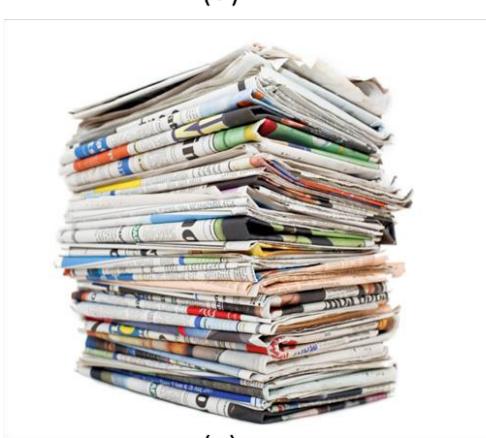
Ka'mao on'sogimin tableo dingtang dingtang dingtang sam bolrangko chimongani aro ran'atani somoio nanggipa jakkalani bosturang:

**Table I: Jakkalgipa bosturang sam bolrangko chimongmiting aro ran'atmiting somoio jakkalna**

Sl. no	Bosturang
1.	A'palo jakkalna nanggipa lekka sechakna
2.	Songbadrang
3.	Polythene bags
4.	Kechakna jakkalna jekai polythene bag ba plastic
5.	Sam bol chimonggiminrangko bimung on'a (kilding baks)
6.	Measuring tape
7.	Camera
8.	Jako ganani gloves
9.	GPS
10.	Rakgipa lekka (Hardboard) / Plywood



**Fig 2:** (a) Lekka sechakna gita; (b) Sam bol chimonggiminrangko bimung on'ani; (c) Measuring tape  
(d) Gloves; (e) Kitani bostu (f) Ratani bostu



**Fig 3:** (a) GPS; (b) Camera (c) Songbad (d) Plastic ni bag

### 3. SAM BOLRANGKO CHIMONGANI

Sam bolrangni bakrangara bijakrang, bibalrang aro biterang ong'a. larangko chimongon name chimonge jedakode iarang herbarium ba lekkao tapaniko name bimungko man'gen. Table 2 o sam bolrangko chimongani dakna nanggnirangko aro simsake dakna nanganirangko ritchue aganangaha. larangoni mitamrang gisiko ra'na nanganirangara sam bolrangni bimung ( ong'ronggipa aro biap sa oni gipin biap ona dongipa bimung), chimongani tarik, biap chimonggimin ni bimung, chimonggipa Mandeni bimung, chimongani tarik, biteni rong, bibalni rong, badita dal'a ba chona, aro maidakgipa biapo charonga ba man'ronga.

Sam bolrangko chimongmitingo gipin gisiko ra'na nanganirangara:

- Chimonggimin sam bolrang bijak, bibal aro bite dongna nanga
- A'ningo donggipa sam bolrangna ja'dilo donggipa biterangko chimongna nanga
- Bolrangna cheksirang bijakrang baksaa chimongna nanga
- Bol choggiparangna rang na ja'dilrang aro bijakrang baksaa chimongna nanga
- Cheksirang dongjaode bol dal'arangna bolni photorangko ra'e iani bakrangko mesoskaana nanga.
- Cheksio ra'on bijakrang dingtang dingtang dake mesokgipa bakrangosa ra'na nanga
- Bolo pangchake dal'a, chona ko nigrike see gisiko dona nanga.
- Churirangko cheksirangko ratna jakkalna nanga.
- Bol bijakrang ma'sigrikaniko aro jajaaniko man'jana gita 'tags' ba lekka chongipachi see rakkina nanga.

**Table 2: Sam bolrangko chimongani ja'mano dakna aro dakna nanggijagipa kamrang**

Dakna nangani kam	Dakna nanggijani kam
An'senggipa sam bolrangko chimonganiko dakna nanga	Jo'ong cha'giparang, an'senggijagipa aro be'gimin bol bijakrangko galna nanga
A'ningo man'gipa ja'dilrang aro biterangko ka'sine cho'e, a'mangrangko ka'sine galna nanga	Cheksirang bijakrang nosto ong'gimin aro be'giminrangko galna nanga
Cheksirang bijakrang, biterang ba bibalrang baksaa dingtanggrike dona nangja	Cheksirang bijakrang komie mesokgiprangko jakkalna nangja
Apsan sam bolrango ra'engon minggni ba minggitam chimonganiko dakna nanga	Mingsan sam bolrangkosan rana nangja
Churirangko jakkalon rongtale aro chi'ronge bimangrangko on'a	Iako dakon sam bolrangko a'ningoniko rake salna nangja
Bimung on'a sam bolrango 'tag' ba dingtanganiko ma'sigrikna tarie dona nanga	Labellingko ba bimung on'aniko bijakrangko ba cheksirango dakna nangja
Dingtanggrikaniko on'a ba tags ko chinsringe donon name aro simsake sam bolrango dona nanga	Sam bolrangko ka'aniko rake kana nangja jedakode uarang nosto ong'na man'jawa ba olgroke kana nangja jedakode iarang gipinrang baksaa brinako man'jawa

#### 4. SAM BOLRANGKO RAN'E RAKKINA NANGANI

Sam bolrangko chimongani ja'mano iarangko ka'sine sitjete ran'ataniko daka jedakode **chinonggimin chirang ko ran'ate lekkao stapatna altugen. Gisiko ra'ani kattarangara:**

- Chimonggimin sam bolrangko name ran'ate tarie donchengna nanga
- Songbadrango mitape done mingprak sam bolrangko songbad dingtango dona nanga
- Songbado sam bolrangko donon bijakrangko sam gni dake mesokna nanga.
- Bol bijak dal'a ba chiriknik donga ong'ode sam gniko tem'e dona nanga jedaode paksam gni ko nikna man'gen.
- Bol bijak ni rikging songbad oni nakata ong'ode iako 'N' ba 'W' o tem'e dona nanga.
- Bolnicheksirang bijakrang baksad dingtang dona nanga jedakode bijakrangni dingtanggrikaniko ma'sigen.
- Bijak gitchagiparangko rike gale jedakode bibalrang, biterang pindapaniko man'jawa.
- Bibal gipinrang lekko on'tisa sitjetaniko man'on mitamrangko kulie aro mitamrangko pingrope dona nanga, jedakode bibalrangni ning'ani bakrangko nikna man'gen.
- Sam bolrang songbado done lekka raka ge'gni o pindape done iako budu ba kildingchi rake kae dona nanga.
- Songbad ko salgni ba salbrirangni ja'mano gitalko jakkalna nanga.

**Table 3: Sam bolrangko ran'atani aro ka'sine sitepani ja'mano dakna aro dakna nanggijagipa kamrang**

Dakna nangani kam	Dakna nanggijani kam
Sam bolrangko plastic chimongani ja'mano iako songbado dona nanga	Plastic o ru'ute dona nangja ong'jaode sam bolrang nosto ong'na altua
Sam bolrangko apsan songbad o donrimgia dingtang songbado dona nanga	Jajaniko man'jana gita sam bolrangko apsan songbado dona nangja
Songbad ko sal 3 ba sal 4 rangni ja'mano gitalko jakkalna nanga	Sam bolrangko apsan songbadrango dona nangja
Iarangko dako bolrangni gimik bakrangko niksenge dona nanga	Bolni bijakrang ko gipinni bakrangko jedake bibalrang, biterang ko donapaniko man'a nangja
Cheksirango bijakrang baksad dingtanggrikaniko nikna man'gen	Cheksirangko bijakrang baksad ekgrike dona nangja
Bol bijakrangko mikkang ao ki'sang ake mesoke dona nanga	Bijakrangko paksa dake songbado dona nangja



(a) Sam bolrangko chimongani



(b) Uarango churi chi simsake  
ratani



(c) Sam bolrangko ritchue see  
donani



(d) Uarango ma'sina gita chin  
on'ani



(e) Lekkao sam bolrangko name  
done on'tisa bil on'e ba ka'sine  
sitjetani



(f) Uarangko lekka rakao name  
apsan donani

**Figure 4. Sam bolrangko chimonge aro ka'sine sitchete donani bewalrang**

## 1. HERBARIUM SHEET BA SAM BOLRANGKO LEKKAO TAPANI

Ivory sheet (42 x 27cms), labeling sheet ba lekkao mingna nanggipa aro stapani bostu (jedake fevicol ba paper-tape) iarangan herbarium sheet ba sam bolrangko ma'sina aro ui'na gita tape dona. Lekkao stapaniko dakon sam bolrangko ra'e lekkao ba herbarium sheeto fevicol ba paper-tape chi stapat. Bite, bitchil bolrangi bakrangko kilding baksaa lekkao sikchapa ari bibalrangko envelope o chipe dona. Bu'su gnange ningao chi donggipa jedake cactus rangko chi ding'ao sim'bole, ran'ate ran'ani ja'mano lekkao kildingchi sike dona. Apsan daken bite dake donngipa a'ningo chagipa koba apsan jangchio atha rate, chi ding'ao sim'bole, ran'ate, ivory sheeto tape dona. Iano ja'mano jakragipao sam bolrangni gimin agananiko on'a. Jakrao tape dongipako dintang dingtang sam bolrangko agananiko on'a jedake:

1. Sam bolrangni aro sam bolrangko chimonggimin ni bimung ( jakklaronggipa bimung, skanggipa bimung aro bon'chotgipa bimung)
2. Sam bolrangni family ba badia bako ja'akachim
3. Jakkalronggipa bimung
4. Mai biaponiko ra'ahachim
5. Biap ni badita chua
6. Sam bolrangko jeoniko man'achim iani gimin see on'ani
7. Chimonggipani bimung
8. Mai tariko chimongahachim

District..... Date
1.Sam bolrangni ni bimung.....
2. Sam bolrangni family ba badia bako ja'akachim.....
3. Jakkalronggipa bimung.....
4. Mai biaponiko ra'ahachim.....
5. Biap ni badita chua.....
6. Sam bolrangko jeoniko man'achim iani gimin see on'ani.....
7. Chimonggipani bimung.....

**Fig 5: Fig 5: Herbarium sheet ba sam bolrangko tapani bewal**

### Chimongani:

Sam bolrang ra'ani, stapatani aro bimungko ma'siani ja'mano iako herbariumko donchakani ja'mano cupboardo ba lekkako donchakani biapo dona aro biap ran'ao dona nanga. Jo'onrangoni chel'e dona gita golpulko on'chapna ba bisemseme dotkninge lekka samba o dona nanga.