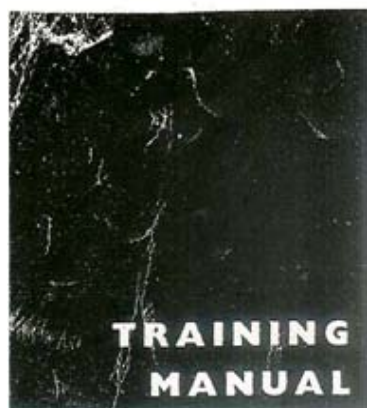
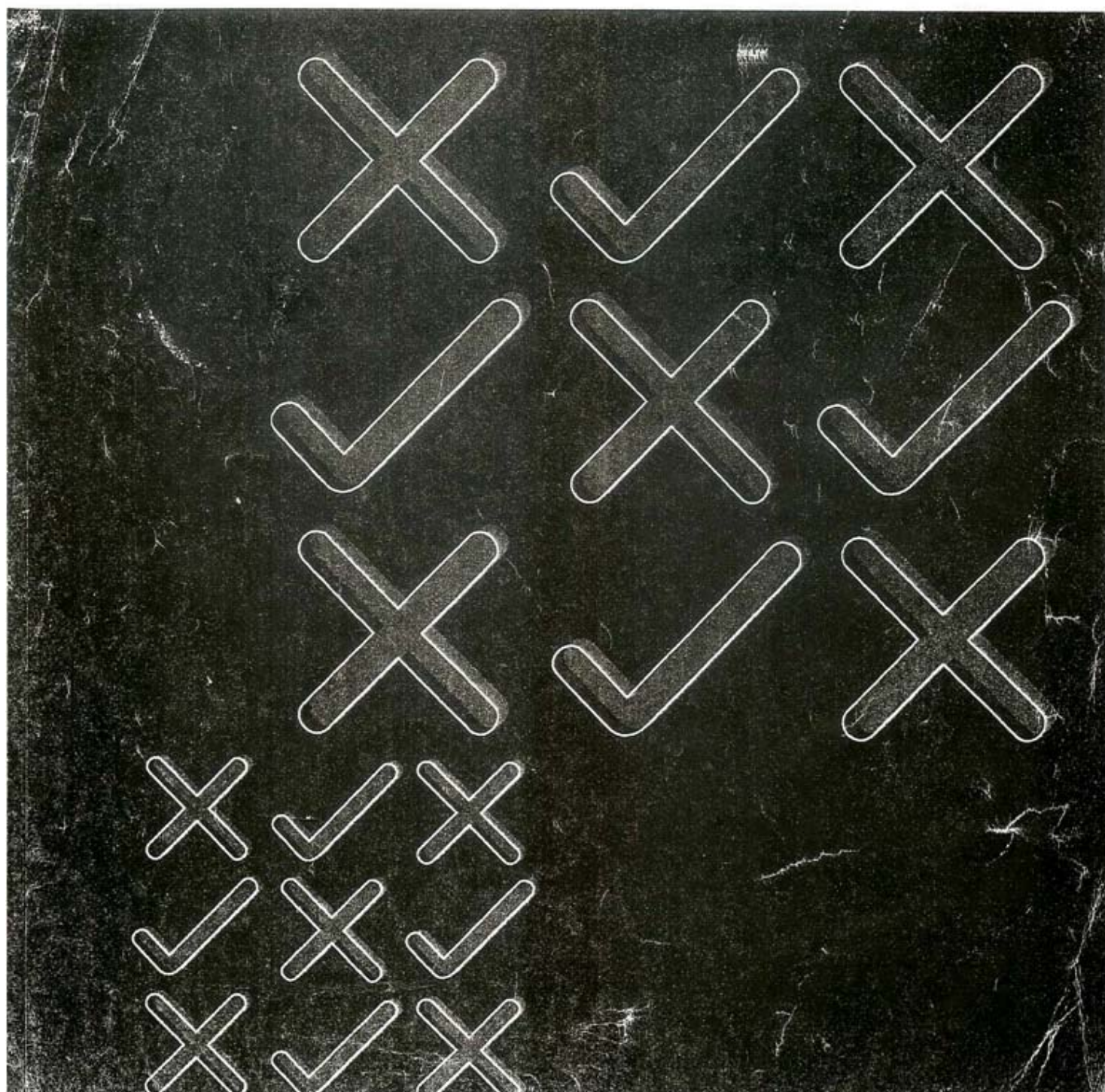
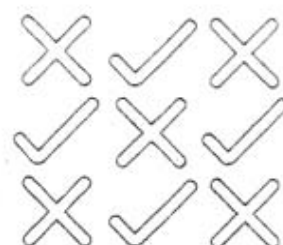




Wa·ako Ge·ani



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2004 - A·SONGO WA·A GE·ANIKO GIPATNA KAM KA·ANIKO.

A·songo wa·a ge·aniko gipatna kam ka·aniko ong·katatchenggipara India Governmentni ningo ong·e kam ka·gipa jean ong·bewal bostu aro indakgiparangni gimin u·ia (Science) aro bosturangni ong·bachenganini gimin u·igipa-an (Technology), ong·a. Bosturangni ong·bachengani gimin u·iatsamsogipa, mikkanchini gimin agansogipa aro porikka ra·e nigipa dolrangni dakchakanichi aro jakkalanirangchi a·songo gipatna kam ka·giparang den·gimin wa·arangko janggi sikatpila gita ong·atna man·aha. Ia dakanirang songo noko janggitangani gadangrangko tangdodapatan baksana uamangni u·iani gunrangko gital dakpiltaiatna dakchakaha.

Ia ki·tapko mamung hokum gri darangba gital dake tarina aro namdapatna gita man·jawa.

Chapa ka·atgipa:

Nationa Mission on Bamboo Applications (NMBA)
Technology Information, Forecasting and Assessment Council (TIFAC)
Department of Science and Technology (DST)
Government of India.

·A·Wing, Vishwakarma Bhawan
Shaheed Jeet Singh Marg
New Delhi 110 016
T 011-26566778,55659876
F 001-26962267
E bamboo@tifac.org.in

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U · IATCHENGANI



Chinga ia wa·a-ko ge·na ranta ka·aniko training on·ani ki·tapko banga manderangni namnamgipa ku·patianirangchi aro sea jotanio namdapatna dakchakanirangko on·anichi (jedakode manderang nam bate masie rana man·batgen), chusokna gita man·aha.

Chu·gimik dilaniko on·gipara NMBA-ni Mission Advisory Committee, Sudhir K. Pande aro Dr. A. C. Lakshmana ong·a. · Jelsruatani aro Ge·a gamani (Propagation and Cultivation) – ko missionni sub-group jean iarangni bidingo u·ia aro masibata, May 2003 - July 2004 bilsirangni gisepo chang 3 (gittam) Delhi, Peechi aro Pantnagar-o gronggrikaha aro nipiltaianirangko dake namdapatnirangko dakangaha.

Dingtangmancha lekkana tarina jakkalgipa wa·ani gimin Dr. H. B. Naithani , Agan·ku·patigipa (Consultant), Forest Research Institute (FRI), Dehradun; Khushwant Singh Sethi, The Energy and Resources Institute (TERI), Delhi; Dr. K. Haridasan aro L.K.Bhuyan, State Forest Research Institute (SFRI), Itanagar; Prof. K.V. Devar, College of Forestry, Sirsi; Dr. K. Seethalakshmi, Kerala Forest Research Institute (KFRI), Peechi; Vinod Bhatia, FRI, Dehradun; aro s. Pattanaik. Scientist,

Rain Forest Research Institute (RFRI), Jorhat, iamang taribaaha. Sudhir K. Pande iarangko name dake nirokangaha aro masi-taldapatnirangko on·angaha.

Dr. Sanjay Saxena, Dr. K. Haridasan, Dr. Y. C. Tripathi, RFRI, Jorhat–oni aro Dr. K. Seethalakshmi se·a-jotanirangko nipiltaiangaha aro namdapatna dakchakaha. Prakash Lohia uni Garh Mukteshwar-o wa·a ge·anio masie u·ie ragimino pangchake nambee dakdile mesokangaha.

Bonkame, NMBA team-ni (Suneel Pandey, deepiti Dabas, V. S. Oberoi) bosturangko ra·”bachimongbaaha.

Segiminko taridapanirangko Indira Chandrasekhar dakaha aro Mugdha Sethi riting ba line salanirangko dakskaaha. Dr. S. Pattanik, Dr. Sanjay Saxena, Khushwant Singh Sethi aro Dr. Muktesh Kumar KFRI, Peechi-oni, Noksarangko on·gilangaha.

KI'TAPNI A'BACHENGAO TALATANIKO ON'ANI (PREFACE):



Indiao man·na altugipa wa·arangko maikai ge·na nanga aro uarangko maikai simsakna nanga, iarangni gimin ia **TRAININGKO ON·ANI KITAPO** name rongtale talataha. Ia kitapko tariani ortoan wa·ako maidake ge·na nanga uko skie on·nan ong·a.

Ia kitapko tarianichi banga manderangna uamangni wa·ako ge·anio jelrooatano aro burung bolgrimrango janggitanggipa manderangko aro noksam nokgilrango ge·na namnikgipa manderangni janggitanganirangna bangen dakchakani ong·gen ine ka·dongsoa. Wa·ani gamchataniko tangdoatna aro pala-simna gita jedakode dam donge palna gita man·gen, uarangna dakchakaniko ong·gen ine ka·dongsoan baksa nichaksoa.

Wa·ako ge·na aro uarangko dingtang dingtang gital gital kamrangna jakkalna gisiko nanganirangko da·o bangen nikna gita man·a. Sandie nigiparag manderangna tikkelanirangko aro jotton ka·na gita krengdilanirangko on·e manderangni gisikrangko dingchaoatanirangko on·aha. Banga institutionrang aro mitamrang NMBA-ni dakchakako man·e, dingtang dingtang chol ba bewalrangko jakkale wa·ako ge·anio chu·sokgipa ong·na kamko ka·chakataha.

Apsan somoion wa·ani gamchatani tangdodapaha aro banga badinggiparang uamangni namnikatangtang gita basee mai wa·ako, ramramko ma namkalako aro dambeko ba briako basee rana man·aha, aro badinggiparangni nangnika gita wa·arangko on·atna man·ode banga tangka paisarangko uarangni pal man·”aha.

Iarangan ka·dongatna amgipa chinrang ong·a jerangan wa·ani gamchataniko aro uni jakkaltoaniko nie mikkang mandeni janggitanganiko chu·sokatna dakchakgipa bostu ong·a ine bebera·atna dakchakani ong·gen. Uni gimin ia kitapko manderangna dingtangmancha dakchakaniko on·na gita tariaha.

Vinay Sheel Oberoi

Mission Director

National Mission on Bamboo Applications

November 2004

Aganchengani

Ge·a gamani gamsengrangoni Indiani wa·a-an 10 million hectare burungrango gapatako man·e a·gilsak gimiko gnigipa dal·batsranggiparangoni mingsa ong·a. Iarang baksana wa·ara manderangni baganrango, noksam-nokgilrango, aro songsarni rakkigimin a·arango charamramaiachim. Indiani wa·arangde chaoba apalbegipa a·kawerango, a·brirango biap dongpilgijan chaaia aro sagalni 3,000 metre chugipa biaprangona kingking chaachim. King 1.500 ki·taprangko ianan dingtangmancha tariaha aro indake aganna gita man·gen je bi·apoba aro jenaba wa·akoara mandenara nanganiko nika.

Adita bilsirangna skang wa·ako gee dingtang dingtang kamrangna miksonge manderangni gonganirangko nikna man·a. Karkanarango aro dingtang dingtang wa·aoniko tarie palna gita wa·ako bange snaditokaha aro jatni dakbewalanirango jakkalna nanganirangna wa·ako bangen am·aha, indake wa·ani gamchataniba dam baksa tangdobaaha. Wa·a bi·sa ba me·a tarianirangba waa ge·giparagonin ong·katbaaha aro namen mingsingangaha. Wa·ako ge·giparang an·tangtangni wa·ao janggitangna man·arangkoba nam·bee mesokanga balsa bostu komibee nanganirangkoba dakmesokaha. Masiatani ba u·iataniko on·gipa manderangba wa·ani gamchataniko aro mande gita to·e mandeni ripeng dake aganaha, maina banga dakchakanirangko mandeni janggitanganina on·aha. Wa·ara gimik kamnan cholia, mangraka aro bangen den·e jakkalgenchim ong·oba chataitaina gita taraken man·aia, uni gimin bolrangni dam tangdoahani gimin da·ode manderang wa·akosa banga dingtang dingtang kamrangna jakkalskaenganiko nikna man·gen. Wa·ara charamramaigipa ong·oba uo gamchatani gnan, ian skia-pora donggijagipa manderangnade janggitangna dakchakgipa cholba ong·”a aro banga manderangni janggitangani gadangrangkon tangdoatna dakchakaha.

Ia ki·tapara ramram mandenan tarigimin ong·a aro Indiao man·na amgipa dingtang dingtang rokomni wa·arangko maidake pale sime jakkalna nanga uarangko name tale mesoke on·ani ong·a. Ia kitap wa·ako maidake tarie dal·atna nanga, uko dingtangmancha agan-mesoke on·anirangko daka. Ia kitapko poraie janggitanganina dake cha·anirangko, mongsongbate a·pal dongpagijagipa aro mamungkon ge·oba silgijagipa bi·aprango wa·ako ge·skae janggitangni gadangrangko tangdodapanina bangen dakchakani ong·gen ine chinga ka·dongsoa.



Pala-simna namgipa Indiani wa'arang



Bambusa balcooa

Man·na amgipa aro sual-raronatgipa bi·aprang: Bihar, Jharkhand, Indiani Salgro Salaram, Uttaranchal, West Bengal.

Jakkalgipa Bimungrang: *Bhaluka* (Assam); *Balku bans*, *Boro bans* (West Bengal); *Wannah*, *Beru* (Meghalaya: Garo Hills); *Barak* (Tripura); *Leewa* (Manipur).

Chaani bewalrang: Man·na nenga, dingtang chatea indiba gipin rokomrang baksa chapana gita mamung jeani dongja (gregarious), aro bitchilko on·ja.

Chataiani bilsirang: Bilsil 35 - 45 ona kingking.



Bambusa bambos

Man·na amgipa aro sual-raronatgipa bi·aprang: India a·song jolgimikon man·na ama.

Jakkalgipa Bimungrang: *Kotoha* (Assam); *Behor bans* (West Bengal); *Illi*, *Mula*, *Pattill* (Kerala); *Kanta bans* (Orissa); *Nal bans* (Punjab); *Saneibo* (Manipur); *Mungil* (Tamil Nadu); *Bongu veduru*, *Mula veduru* (Andhra Pradesh).

Chaani bewalrang: Gipin rokomrang baksa chapana gita mamung jeani dongja (gregarious), basakobade dingtang dingtang biaprang aro dingtang dingtang somoirango ong·gipa ong·a.

Chataiani bilsirang: 40 -60 bilsirangona.



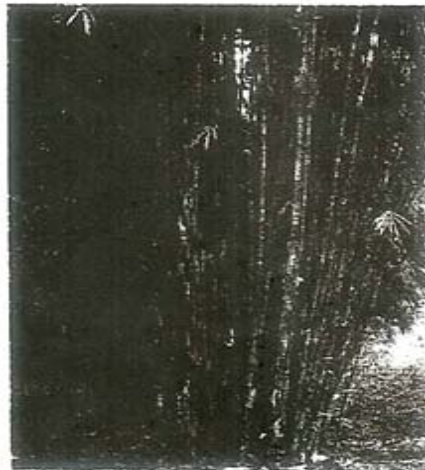
Bambusa nutans

Man'na amgipa aro sual-raronatgipa bi'aprang: Himachal Pradesh, Indiani salgrosalam, Orissa, Sikkim, Uttar Pradesh, West Bengal.

Jakkalgipa Bimungrang: Bhiduli, Mukia (Assam); Malla (Uttar Pradesh); Mallo, Mahi bans (Sikkim: Lepcha); Badia bansa (Orissa); Kali, Beng, Makla (Tripura); Uttang (Manipur); Rungazumi (Nagaland).

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong'gipa ong'a, basakobade gipin rokomrang baksa apsan brine chaaia.

Chataiani bilsirang: bilsirang 35 ona.



Bambusa pallida

Man'na amgipa aro sual-raronatgipa bi'aprang: Indiani salgrosalam, Sikkim, West Bengal

Jakkalgipa Bimungrang: Bijuli (Assam: Sogdu a'kawe jolrango); Bakhal, Burwal (Assam: Barak a'kawe jolrango); Loto (Assam: Karbi-Anglong); Seskien, Skhen, Tneng, Usken (Meghalaya: Khasi Hills); Tesero, Watoi (Nagaland); Pashipo, Pushee (Sikkim: Lepcha); Makaal (Tripura)

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong'gipa ong'a.

Chataiani bilsirang: Bilsirang 40 rangona.



Bambusa polymorpha

Man'na amgipa aro sual-raronatgipa bi'aprang: Assam, Arunachal Pradesh, Madhya Pradesh, Meghalaya, Tripura, West Bengal.

Jakkalgipa Bimungrang: Jama betwa, Betwa (Assam, West Bengal); Narangi bans (Madhya Pradesh); Bari (Tripura)

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong'gipa ong'a, aro gipin rokomrang baksa apsan brine chaaia.

Chataiani bilsirang: 55 -60 bilsirangona tanga.



Bambusa tulda

Man'na amgipa aro sual-raronatgipa bi'aprang: Bihar, Jharkhand, Kerala, Indiani salgrosalam, Orissa, Sikkim, West Bengal.

Jakkalgipa Bimungrang: Jati (Assam, Arunachal Pradesh, Nagaland, West Bengal); Kiranti (Bengal: Dooars); Wati (Meghalaya: Garo Hills); Makar (Kerala); Mirtinga (Tripura); Rawthing (Mizoram); Paoshiding, Ying (Sikkim); Deobans (Bihar).

Chaani bewalrang: Gipin rokomrang baksa chapana gita mamung jeani dongja (gregarious), basakobade dingtang dingtang biaprango aro dingtang dingtang somoirango ong'gipa ong'a.

Chataiani bilsirang: 30 - 60 bilsirangona tanga.



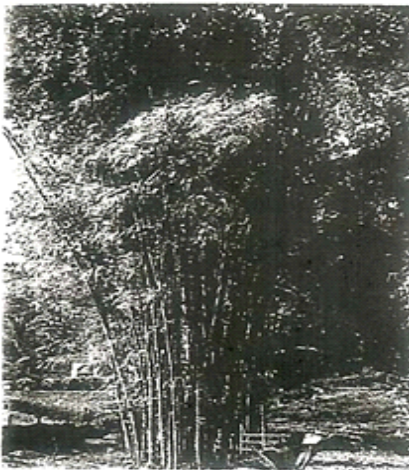
Bambusa vulgaris

Man·na amgipa aro sual-raronatgipa bi·aprang: Arunachal Pradesh, Assam, Bihar, Madhya Pradesh, Manipur, Mizoram, Orissa, Tripura, West Bengal.

Jakkalgipa Bimungrang: *Basini bans*, *Bakal* (Bengal); *Lam Sameibi* (Manipur); *Vairua* (Mizoram); *Sundrogai*, *Sunderkania bansa* (Orissa); *Ketuna* (Assam: Barak a·kawe jolrango donggiparang agana)

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong·gipa ong·a, man·na nenga aro bitchilko on·ja.

Chataiani bilsirang: Bilsil 80 na baten tanga.



Dendrocalamus brandisii

Man·na amgipa aro sual-raronatgipa bi·aprang: Andaman chichangrango, Karnataka, Kerala, Manipur, West Bengal.

Jakkalgipa Bimungrang: *Bulka* (Bengal); *Wanan* (Manipur)

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong·gipa ong·a, aro gipin rokomrang baksa apsan brine chaaia.

Chataiani bilsirang: Bilsil 40 - 45 rangona tanga.



Dendrocalamus giganteus

Man·na amgipa aro sual-raronatgipa bi·aprang: Karnataka, Indiani salgro salaram, Sikkim, Uttaranchal aro West Bengal.

Jakkalgipa Bimungrang: *Maipo* (Arunachal Pradesh: Khamti); *Worra* (Assam); *Ketuna* (Assam: Barak a·kawe jolrango agana); *Bhalo bans* (Sikkim); *Maribol* (Manipur).

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong·gipa ong·a,

Chataiani bilsirang: 40 - 80 bilsirangona tanga.



Dendrocalamus hamiltonii

Man·na amgipa aro sual-raronatgipa bi·aprang: Bihar, Himachal Pradesh, Indiani salgro salaramo, Orissa, Sikkim, Uttaranchal, West Bengal.

Jakkalgipa Bimungrang: *Kako* (Assam); *Fonay* (Assam: Karbi-Anglong); *Pecha* (Tripura, West Bengal); *Tama* (West Bengal: Darjeeling); *Unep* (Manipur); *Wanok* (Meghalaya: Garo Hills); *Pao* (Sikkim:Lepcha); *Phulrua* (Mizoram); *Maggar* (Himachal Pradesh).

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong·gipa ong·a, aro gipin rokomrang baksa apsan brine chaaia.

Chataiani bilsirang: 30 - 40 bilsirangona tanga.



Dendrocalamus strictus

Man-na amgipa aro sual-raronatgipa bi-aprang: Indiani jol gimikon man-na amaia indiba Indiani salgro salaram jolode ruutgija somoirangna skangsa ong·katataha.

Jakkalgipa Bimungrang: *Lathi bans* (Indiani salgro aro bijangchi jolrango donggiparang agana); *Kanka kara*, *Sandapa veduru* (Andhra Pradesh); *Karal* (Bengal); *Nakur bans*, Kiri bidiru (Gujarat); *Kallanmula*, *Kurathimula*, *Korna* (Kerala); *Narvel* (Maharashtra); *Salia* (Orissa); *Kalmungil* (Tamil Nadu).

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong·gipa ong·a, aro gipin rokomrang baksa apsan brine chaaia. *Chataiani bilsirang:* 25 - 45 bilsirangona tanga.



Melocanna baccifera

Man-na amgipa aro sual-raronatgipa bi-aprang: Assam, Manipur, Mizoram, Meghalaya, Nagaland, Tripura, aro West Bengal.

Jakkalgipa Bimungrang: *Mautak* (Mizoram); *Tarai* (Assam: Songdu jolo donggiparang agana); *Arten* (Assam: Karbi-Anglong); *Muli* (Bengal, Tripura, Assam: Barak a·kawe jolrango agana); *Watre* (Meghalaya: Garo Hills); *Moubi* (Manipur); *Turiah* (Nagaland);

Chaani bewalrang: Chagipa biaprangode charipripaia indiba dingtang dingtang biaprango aro somoirango ong·gipa ong·skaja.

Chataiani bilsirang: 30 - 35, 45, 60 bilsirangona.



Ochlandra travancorica

Man-na amgipa aro sual-raronatgipa bi-aprang: Karnataka (Salgro jolo); Kerala, Tamil Nadu.

Jakkalgipa Bimungrang: *Eera*, *Eatta*, *Barakalli*, *Kreeta*, *Oda* (Kerala); *Odai* (Tamil Nadu).

Chaani bewalrang: Gipin rokomrang baksa apsan brine chaaigipa ong·a.

Chataiani bilsirang: 7 - 15 bilsirangni gisepon ong·a.



Oxytenanthera stocksii

Man-na amgipa aro sual-raronatgipa bi-aprang: Goa, Karnataka (Konkan chi-rikam jolrango); Kerala (salgro jolo); Maharashtra.

Jakkalgipa Bimungrang: *Konda*, *Oor-shema* (Karnataka); *Uyi*, *Mula* (Kerala); *Chivari*, *Mes* (Maharashtra).

Chaani bewalrang: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong·gipa ong·a, indiba bitchilko on·ja.

Chataiani bilsirang: 40 -45 bilsirangna.



Schizostachyum Dullooa:

Dong·ani aro Sualani: North East (Salaram-Salgipeng)

Biapni kri bimung ming·ani: (Dolo) Assam, Nagaland, Tripura) Tollarwa (Manipur): Rawthla (Mizoram)

Bibalni Bewal: Dingtang dingtang biaprango aro dingtang dingtang somoirango ong·gipa / Jinmamung ba dolmung dongna namnikgipa ba donggipa.

Bibalni sal ba somoi: 30-45 bilsirango.



Thyrsochloa Oliveri:

Dongchakani biap aro sualani: Manipur, Tripura.

Ua biapo mingani bimung: Kanak Kai (Tripura) Keirakwa (Manipur)

Bibalani bewal: Jinmamung ba dolmung dongna namnikgipa ba donggipa.



Dendrocalamus asper:

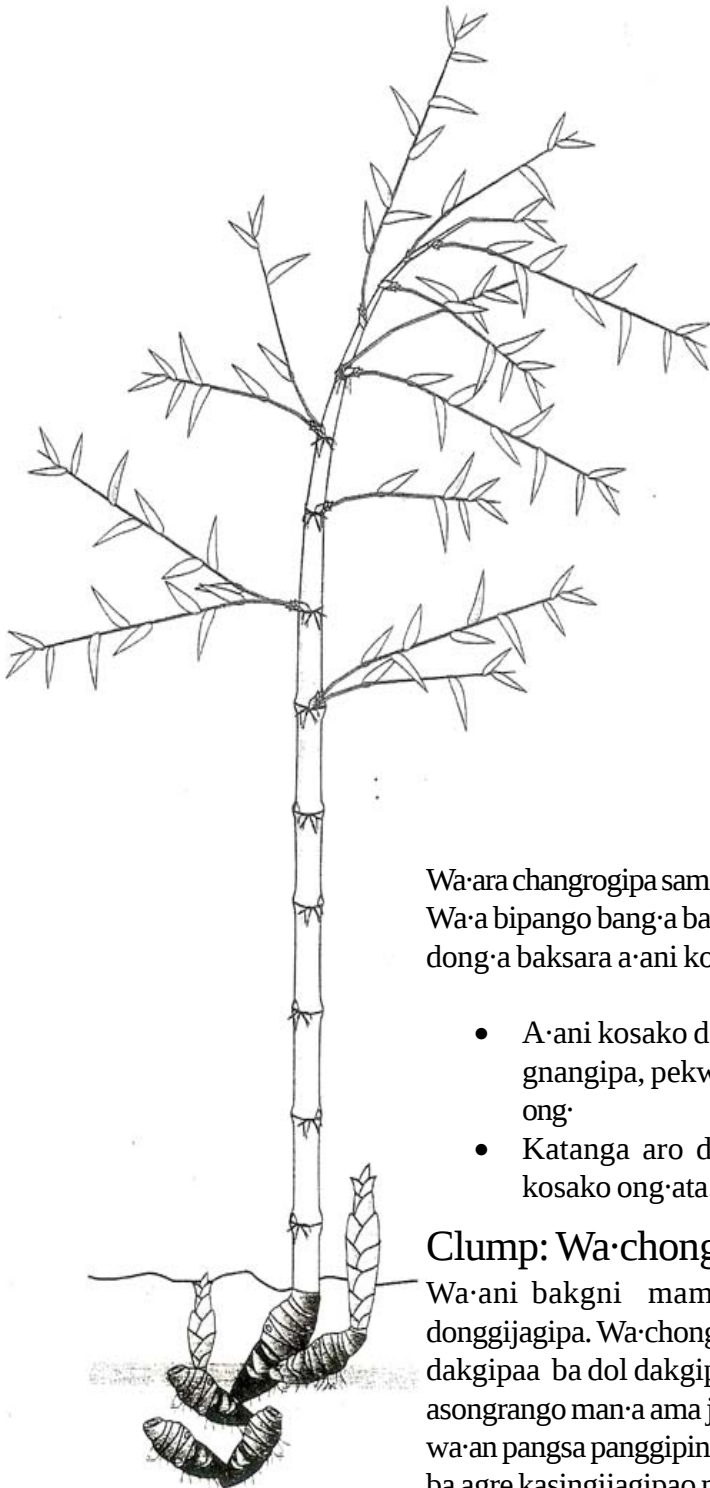
Ia wa·ako 1990 mango Thailandoniko ra·bae Indiani bang·a biaprango, gam·e ge·e cha·na man·na ine mesoke on·aha.

Bilsi 100-na bate ian jinmamung dongna man·a.

Ia w·ani mea dam chatan baksa antiona ra·ange palanio dam baridaproroani cholrang donga.

Ia wa·ani bitong namen raka aro banganan jakkalna man·a.

Bamboo Plant: Wa·a Bipang



Wa·ara changrogipa samsi, tarake dalninggipa jatsa mamalni pang ong·a. Wa·a bipango bang·a bakrang gnang. Apsandakgipa bimangni bakgni dong·a baksara a·ani kosako aro baksara a·ani ning·o ong·a.

- A·ani kosako donggipa jorarorogipa, doksronggipa, cheksi gnangipa, pekwatgipa cheksirang, jean apalchina bitongoni ong·
- Katanga aro dalroroate apsandakgipa wa·ani bimangko kosako ong·ata.

Clump: Wa·chong

Wa·ani bakgni mammal: Wa·chong donggipa aro wa·chong donggijagipa. Wa·chongara adita wa·arangni japang ong·a. Wa·chong dakgipaa ba dol dakgipa wa·ako altuae dinggipa aro bijangchigipa asongrango man·a ama jekai India. Wa·chong donggijagipa wa·a ba je wa·an pangsa panggipinoni chelgrike chaa uarangko agre dinggijagipa ba agre kasingijagipao manskaa.



Wa·chong bitchil ba wa·bisaoni ong·baa, wa·chong gipinko dene uarangko nambate jelatanina dakatna mana.

Wa·ani wa·chong bilsil 4-6 rango brea. Bilsiprakon chongprakan chusoke bimangni dal·roroaniko daka I.e Chuani aro cheltongni duulani. Wa·chong makete tomdaknaba donga (jekai *Dendrocalamus hamiltoni*. *Bambusa Tulda*, *Bambusa bambos* gita) Wa·chongrang bange biap apchona, ba olgroka biapo ng·naba donga(jekai *Bambusa Vulgis*, *Oxytenanthera Sticksii* gita) chokchim dake masianiko on·aba donga.

Culm: Wa·bipang

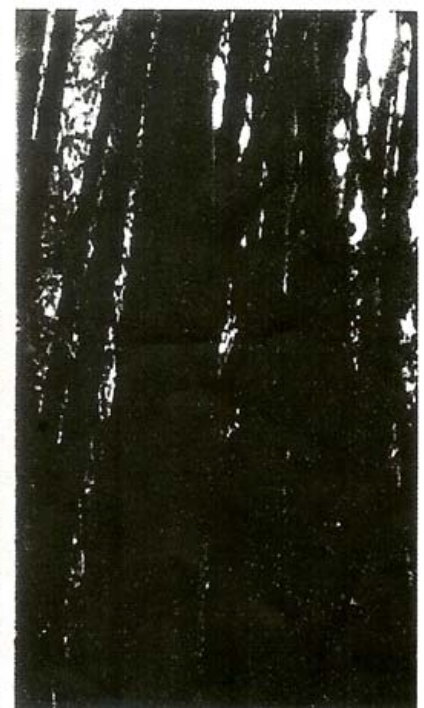
Wa·bipang biong ro·srokgipa jean ku·chotona chonroanga, ian pangni mongsongbate nikna manbatgipa bak ong·a aro mansongbate iakon jakkalbata. Iako apale jakkalani gimin antiango nengrae man·a ama.

Wa·a pang a”ningoni mea gita nabaa. Ian tarake chabae rakgipa bakona sokbaa, uni chugimik chuani aro chelni duulaniko ua sal 80-110 salrango man·a. Wa·a bilsil 4-gipa0 brea aro ua somoion kambeni mangrakanikoba manjola. Bilsil 5-ni jamano uni sramani aro nomani ong8baa.

Mitam wa·arang jekai *Dntrocalamus strictus* aro *Oxytenanthera stocksii*, ningo akol domgoba, rangipa obostaode wa·a bidimiko ongatna man·a

Bangbata wa·ani bipangan tangsekni rong ongbata, gipin rongni wa·arang dongoba jekai rimit, gisim, maram ba gitchak-gisim dakgipa, mitam wa·aran gimin aro tangsekchi salsetgimin ang·aa. Bangbata wa·ani jatrangan breangani ki uarango salakimdapani dingtang ong·anga Mitam wa·arang jekai *Dntrocalamus strictus* aro *Oxytenanthera stocksii*, ningo akol domgoba, rangipa obostaode wa·a bidimiko ongatna man·a

Indiao changrobatgipa wa·a ba a·gilsako changrobatgipa *Dendrocalamus giganteus* ong·a,uni changroa 25 – 30 mete ong·a Arunachal Pradesh-o wa·a dotsani aro·a toe nion 46 metrerna batkale man·aha.



Me·a:

Me·ara nabagipa cheksi ba wapang ong·a. Ian aningoni manchokbagipa ong·aa. Jensalo me·a a·ako na·pretbaa unon ua bijak cheksiko on·e chugimik dalna tariako man·a aro makete biklapo naljoke chipe donako man·a. Changsa ua a·kosakona nabaahaon janggini bidingogipani (biochemical) gita uko tarake dalataniona daka indaken bitongona rakataniko on·a.

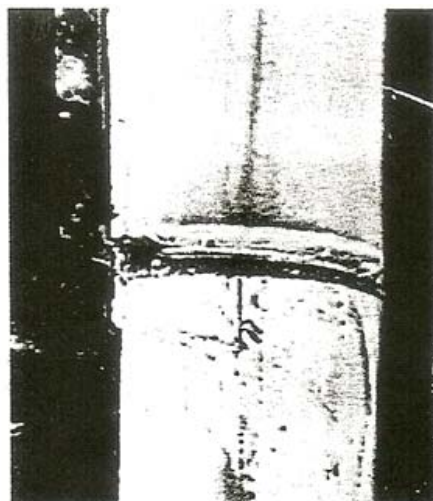


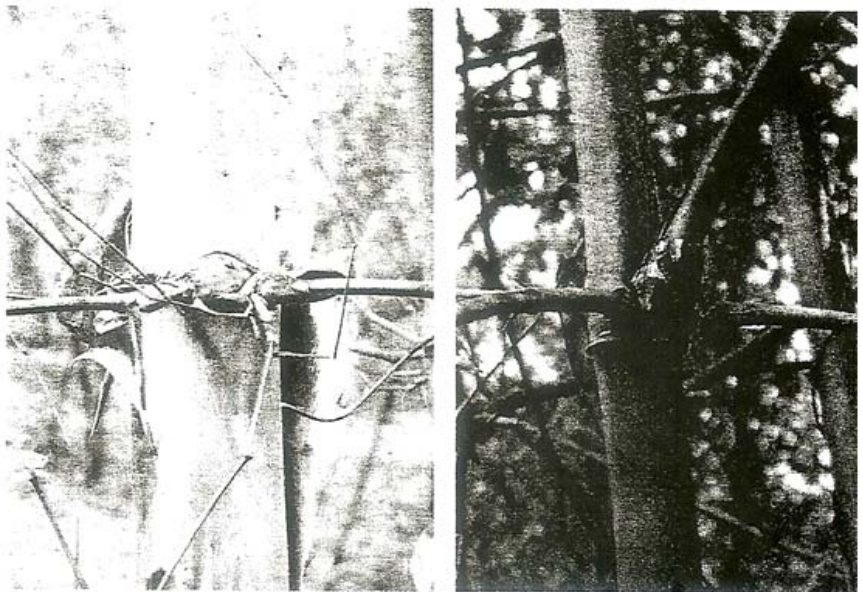
Nodes and Intenodes: Bisku aro Biambongrang

Sympodial wa·a uarangni
chugimik ro·aniko 80 – 105
salrango man·a

Aningni wa·jata, wapang aro cheksirangara biskuchi bak dakako man·a. Iarangan dal·anina mangsonggipa bak ong·a, jeonin bijakrang chae dalrooaniko on·a.

Ge·gni biskurangni gisepo songipakon Biambong minga. Biambongara dingtang onginggipa, indiba pangnade konggrang ongja. Uarang skanggipa daldroani somoio rakgipa bigilchi p0indapaniko man·a, jean bipang breahaon gaakona. B iambongara wa·arangni gisepo adita nangani onggipa ong·a, uni ro·ani 5 oni 60 centemetre ona bate ro·a. Nigoate nion abiambongni roa kosakchipak robata, jangachioni kamani bakona ro·ani komiroroa.





Buds and Branches: Manchokrang aro cheksi

Wa·ani biambongrango paktangtang dingtangrike paksani jamano paksachiak dake cheksiang ong·a Biskuomanchokanirang tongtong cheksini mangrakanirango nangbaka. A·ningni biskuoba manchokanirang donga jean wapang pialte a·ani kosakona dalroroata.

Rhizome: Wa·jata ba ja·tin

Wa·jata ba wa·rongdik ian aningo donggipa wapangni bak ong·a. Ian pangko manrakatanio pangchakani ong·a. Ua a·mitim ningo chae bipangni a·ao chaaniko baiata, aro biapko apalatan baksa ge·san dakata. Ian ha·ani ripinggipa ao pangni bijakrangni dalroroanina chaaniko sualgia ong·a.

Wa·jadilrangoba biskurang donga jeonikon jadilrang chaaniko rana nanga, aro indaken manchokang aningo wajadilona ongrorbaa, jean a·kosak wa·japangona dal·ataniko man·a. Wa·panni bisku baksa toode wajadilni biskurangan sikpretbata. Wapang aro cheksirang gita wa·jadilni biskurang namen rakgipa bisingkapchi pindape rakkiako man·a.



Wa·jastao apalbea mamal gni donga:

- Pachymorph (Sympodial) Wa·grim ong·atgipa
- Leptomorph (Monopodial) Wagrim ong·atgijagipa

Indiani banga wa·an wagrim wajata onggipa onga uni giminsa wagrim ongkata.

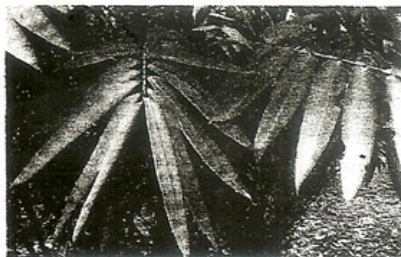
Mitam Wa·arang wa·jatao salani gnang ua mamal gni (sympodial aro monopodial) baksa apsanaia. Ukon Amphipodial wajata ine minga.



Wa·a ja·dilrang: Roots

Jadilrang asalko mangrake rakkia ao name rakkianina tarianiko manata ao gipin pangni bakangna chiko ao chaaniko suala. Uarang wajata biskuoni aro wadotgimikni biskuoni ong·kata ao uaranga amittmni ningo ong·a, mitam waani jato jadirlo waani pango aro cheksirango akosako nikna man·a.

Bangbata wa·a pang aningni jadirang (75 – 85 pecent) rangona a·mitimni kosakgipa gadangona ongbata, a·kosakona seange ningchina 35 centemetreona kingking ningue chaanga. Jadirang a·mitimni ningchina metrena bate naprotangna manchongmota.



Wa·a bijakrang: Leaves

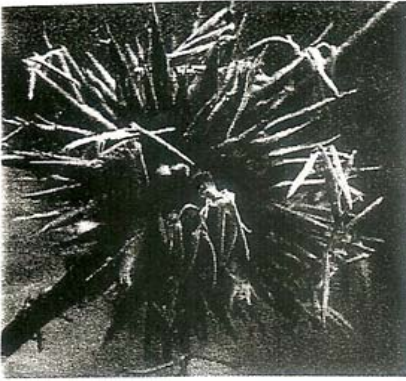
Wa·a cheksirango bijakrang chaa, jerangan tangsekgipa samrang salni jadilnibilko jakkale, jakkalgimin balwa aro chijimrangko chaaniona ongapilskaanina mmongsonggipa ong·a.

Bangbata wa·arangan suakpile bijakrangko onkatata jerangan bilsiantian a·aona ga·akone wabipangni nangani chaanina a·ao ningtue aro chatdike andapa gita gapate dona.

Bibal aro Bibalanirang; (Flower and Flowering)

Wa·ani bibalrangara dingtang dingtang rong, bimang, aro bewalrang donga. Bibalaniara mongsonggipa bijakrangni chokchimni dalani somoio ong·a, bibalani mongsongbate miksonganiara wa·ako atchiataianio bakko ra·anina ong·a

Wa·bipangni bibalani bewalara mingsa nie nike masisamsoani ong·a, chongmotko sandie nianio bibalanirang pilnipil aro gisep gisep ruuta somoina ong·a. Bibalani re·duulanirang bilsisaoni riticha bilsiangona ong·angna man·a. Uaragara mamal gni donga:



- Dolmung dongna namnikgipa (Gregarious): Gimik wa·ani wachong apsan adita bilsina bibala aro indaken jamano sia.
- Sporadic: Mitam wa·ani wachong bibala uni jamano sia. Sporadic waani bibalanira mitam wachong bangao ba banggijao pangchaka. Mitam wa·arangko uni dingtang dingtang somoirango bibalani kri uia.

Wa·ani jatranso indakgipa donga je waani bibalani bewal aro rokomrangko mesoka. *Dendrocalamus hamiltonii* aro cheltanggrika biapranso onga. Ia waani jatba dala arirangna aro bilsu ruute 30 – 40 bilsirangona jinma baksa bibalpaa.



Growing Bamboo: Wa·ako Dal·atani.

Wa·arang bol ong·ja indiba samsisa. Bregimin wa·arangko bilsil brini jamano jakkalna ba palna man·a aro indaken jamano bilsiantian dakangrongna man·a. Indake ong·ani gimin tarake gee gam·e bading chiwalaniko dakna mangipa bolni jat jekai, eucalyptus aro poplar, 7 – 8 bilsirango manskaa. Ian wa·ako gital dakchongmotate nanganirangko manatani cholko ong·ata.

Wa·ako gamaniko bondobos ka·anio dingtang dingtang toanio dakna man·a aro uko dingtang dakgipa aselrango ong·na man·a.

Wa·ako bading chiwalanio lapko maan·a gita ge·a gam·anio tangdoatna bigha gittamang ong·gipa a·a ba una komiagipako jakkale banggija ritcha hectarerangona gamna man·a. Wa·a ge·aniara a·salko rakkianio aro indin a·a galaoniko dakchakgipa ong·a.



Wa·a pangara ge·songgiminsa

Uarang a·salrangko mangrakata aro gital dake a·sal chamaoniko champenga. Wa·a pangsa 6-7 cubic metre-ona a·salko ong·atna man·a

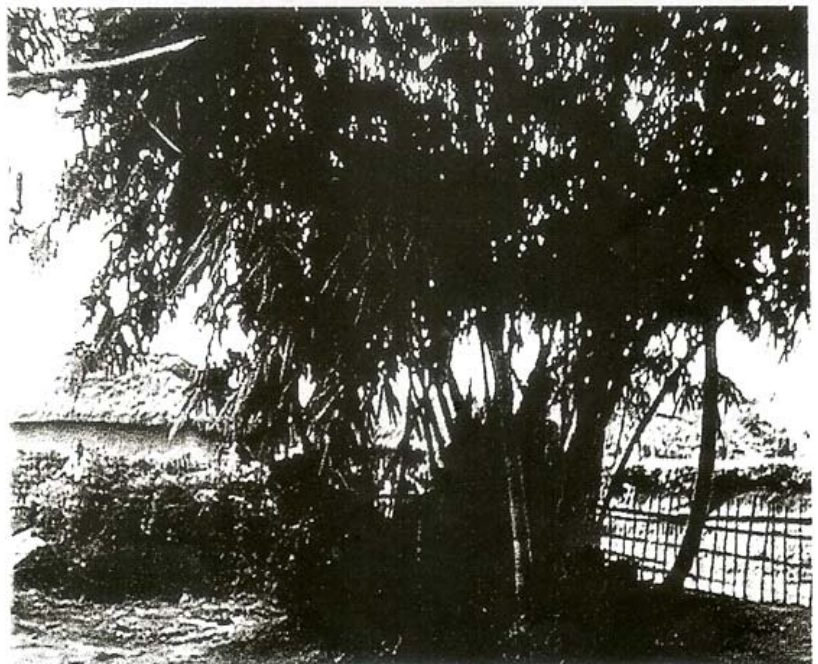
Samtangtango a·ba gnanggipa nokrango wa·ako gena gita man·a, uonikon wa·ako aro me·ako nokni nanganina man·na ama.

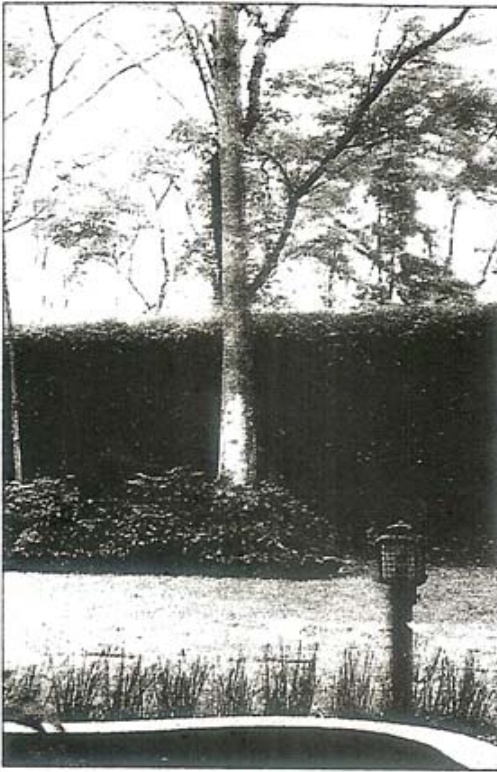
Nokni bagan-bario aro manderangni biapo wa·ako, nitoe nikwatanina gena man·a. wa·akora nokni dringko dingtang dakteaniko dakn jakkalna man·na.

Wa·ako apalgipa biapo ba dalbegipa a·barango ge·ode uarang tarakgipa balwani ramako champenga aro gam·ani baksa a·songni sina ba dingani nangtinggrikaniko rachakna kam ka·gipa ong·a.

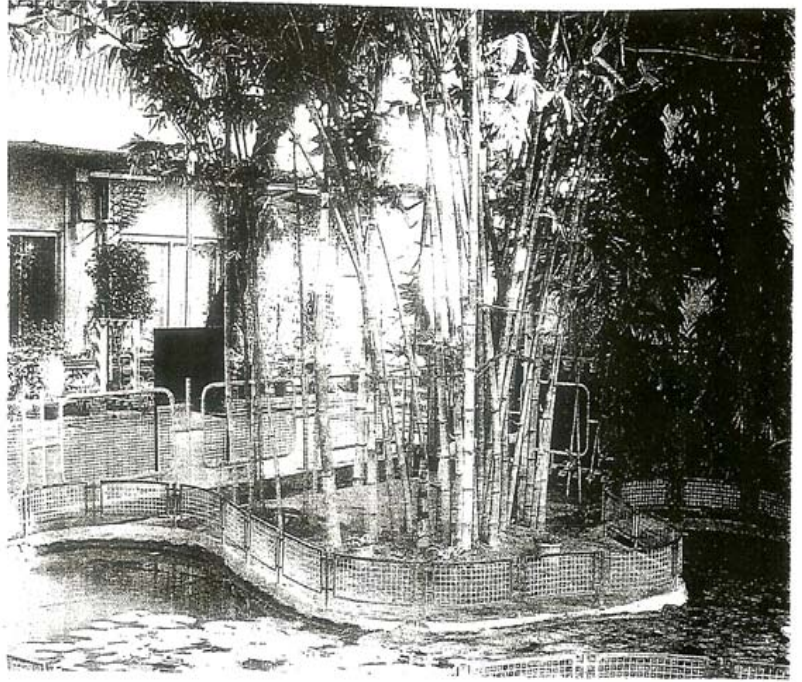
A·ba gnanggipa nokrangni wa·a.: Bamboo Homesteads

A·song gimikon manderang a·ba gnanggiparang wa·ako an·tangtangni songsarni a·ao ba an·tangtangni apchongipa biapo geaniko dakna man·a. ia gea-gamaniko mesokani indaken ongroroanga, nokni wabipangni wa·a chapchaproroe wadim 40 – 50 wa·a onganiona sokanga.





Bamboo hedge



Wa·ani Guare: (Bamboo Hedge)

Nitoe nikatna tarigimin wa·ani guarerang Assm kosakchipak ramram ong·a. Uamang cha baganrango arina gita gee dalata aro name nitoatna gita baganko chalaigipa (manager) aldanokni sambeng bangbanggipa biapo waako gea. Indakgiparangna Bambusa Multiplex-ko jakkalbata. Uarangni wagrimrang deangsigipa aro pakma-ba·gipa, wapang makete chagipa, biskuoni kamachipak soolgipa cheksirang ong·a. Denkena man·na nanggipa aro ian nitogipa guareko ong·atna man·gipa ong·a.



Wa·arang balwa ramako champenggipa:

Wa·arang balwa ramarangko champenggipa bag am·e chagipa a·arangna balwa aro adimuoniko champenge machakaniko on·a aro indaken mangnini gadang aro gunko tongdoata. Wa·asko sepanggrike aro apsan gipengo geode nambataniko on·a aro uko komibeoba riting gni aro noksik gittam bimango geode chijimani biba pilanganiko komiate rakkia aro baljangilni biapna adita sinna-dingani bewalko karate ong·ata. Changni changna wa·a balwachampenggipa, gamgipana wapangkomangba jakkaltogipa ong·ata.

Wa·ako ge·anirang

Kandike segiminni miksonganira Sympodial wa·ako ma·amanti ge·ani biterangko gita bangbate ge·e bari dakani gimin ong·a. Indake Indiao wa·ako ge·aniko hajalsa bilsirangna dakangaha. Ge·a a·bachenga ruutkujaoba bading chiwalani a·sel ge·anirangko bariataha.

BARI:PLANTATIONS

Arunachal Pradeshni Subansiri ajao donggipa Apa Tani machongni manderang an·tang noktangtangna ge·a uamang ge·aniko bigha 3 mang-oni 3–4 hectare biaprango ge·a. Uamang Monopodial wa·a, phyllostachys bambusoides jatni wa·ako ge·a (ajao mingani Bije). Wa·bipangko Apa Tanisrang nok rikna (bera watani) guarena aro am watna. Me·arangko uamang cha·a

Arunachal Pradeshni Subansiri ajao donggipa Apa Tani machongni manderang an·tang noktangtangna ge·a uamang ge·aniko bigha 3 mang-oni 3–4 hectare biaprango ge·a. Uamang Monopodial wa·a, phyllostachys bambusoides jatni wa·ako ge·a (ajao mingani Bije). Wa·bipangko Apa Tanisrang nok rikna (bera watani) guarena aro am watna. Me·arangko uamang cha·a



Wa·a baridakaniara nama cholrangko, change sapaniko ra·baa aro koros ong·aniko komiata.

- A·ako jakkalanio naljokerakkianinaba ong·a.
- Uarang ge·a gamanio kam ka·anio chalaianinaba aro raani somoioba tiktak ong·aniko on·a.
- Ge·ani miksonganira wa·ako bariatna, maikoba ong·atna aro man·dapanina ong·a. Indake wa·a ge·anira bading chiwalanio bilakataniko on·a.
- Minggipinara a·bachengo bading chiwalanina ba mamung chanchisoani gri ong·oba uarang a·ako mangrakatna aro jakkalgijagipa a·arangko gital ong·atnanina ong·skaa.

WA·A GE·ANIRANG : BAMBOO PLANTATION

Bang·a a·selrangna bading chiwalna wa·ako ge·aniara namgniko ra·baa.

- Wa·ako dingtang dingtang apalgipa biaprango a·ani aro obostani kri ge·na nanga.
- Changsa wa·bipangrang chu·onga gita dal·ahaode bilaiantian uko den·nanio chotchangija man·pilskaani donga.
- Wa·arangko raanina denanio tengtonaba donga indiba uarangko ra·ange ru·utgijagipa somoio antio dabia gita on·a nanga.



- Wa·a ge·anira bangija kam ka·ani aro chalaianikoson nangaia.
- Wa·ako dabanirang batroroenga.

Bading chiwalna gita wa·a ge·aniko dakna man·a.

- Wa·a bipang man·aniko bang·atna.
- Me·arangko bang·e ong·katatna.
- Bringipa wa·a aro me·arangko ong·katatna
- Biomassko bangbate ong·katatna.

Mingantio ia nangchongmotgipa ge·anirang apsan ong·pilgenchimode uko man·ani miksonganiba dingtangja, ua dinganganirangara rokomko baseanio, biap donanio, miksongani aro nanganina denani budi aro mongsongbatgipa bipangko rakkianio ong·a.

Wa·a ge·aniko bariatanirang an·chingna mandapani chol ong·a.

- Name breathe dongimin bipangrang hectare prako 23 – 30 tone bipangrangko ong·ata, gipin dakeba nikatna man·a, je 5 – 6 majangchini diametreni wa·a bipangrangko pangprakoman·a ama uara hectare prako 2500 – 3000 pangko on·a.
- Wa·ako bange jakkalgiarang palchakna rikgimin nokderango palna man·a. Jelgipa dolrang aro lekka tarigipa karkanarang (balwa grigipa, i.e. 12 – 15 ona chijimgipa biap) banga wa·ako tone prako gong 800 – gong 1,300 brea.



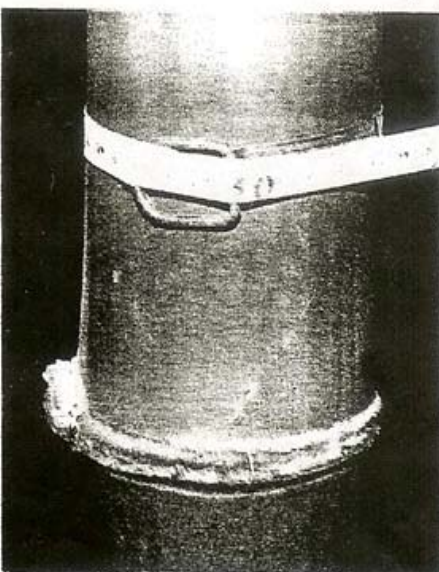
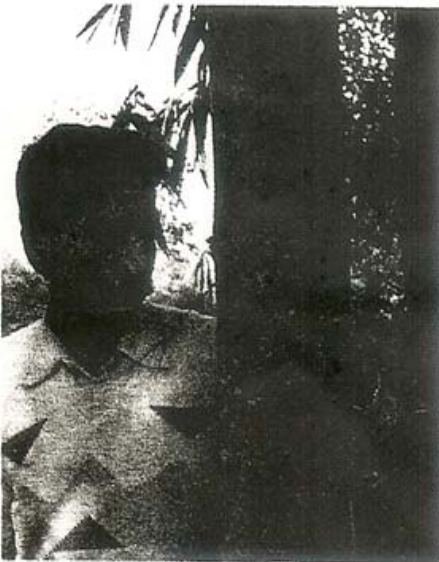
- Wa·ako dotprak dake palna man·a aro ton-o palana bate tang·dobata. Dotprak palani kri damna krae namgipa aro dal·a chu·sokgipa ong·na nanggen. A·songni gisepgriko dotprak palanioni bajar damming dingtanga gong 25–80 ona aro ge·gipa bi·apni chela aro sepangani kri tangdoa
- Namgipa aro bregipa wa·arangko da·bianirang nokrikgipa aro nok rikna tarie ongiparangoni ong·a. Namgipa wa·arangna jakkalgiparang wa·a pangprako tangka gong 40–80 ona brena tarie donga.
- Wa·aoniko tarigipani bostu aro uko chapa ka·aniko tarianinaba banga namgipa wa·ani rokomko nanga .

CHONA BA DAL·ANI GADANG:

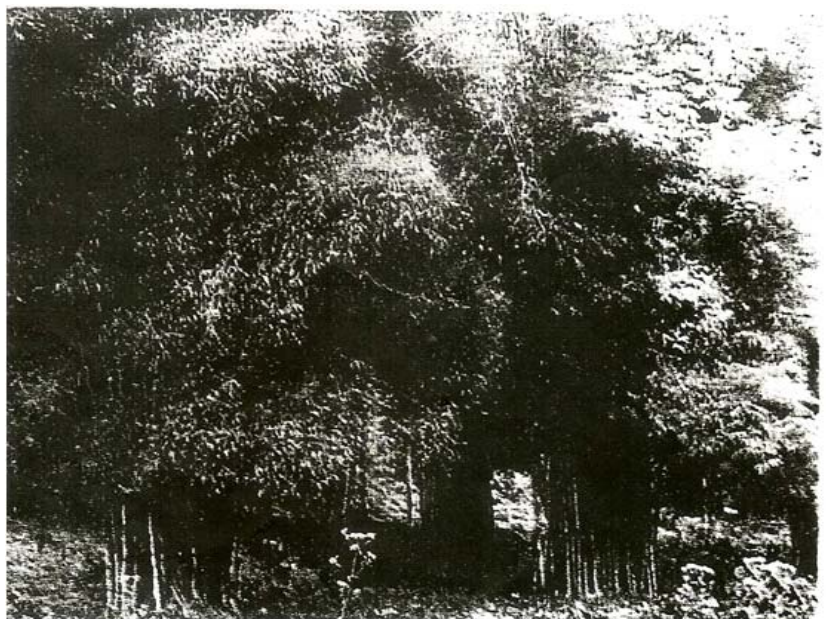
Wa·a ge·aniko a·bachengon a·a damgnini simaoni ritchagni hectarerangoni bigha gittamni adha ong·gipa biapo ong·na nanga. Mingsongbate badinganiana wa·a ge·anirang bimanggnini bako ga·aka : Dal·gipa (20 acre bate) aro chongipa (5 oni 20 acres). Ian simsake jakkalanio namgipa bading chiwalaniko ong·ata aro maikoba a·bachengani aro chalaianiko on·a.

Ge·anina gisiko miksonganiko ragatnanara bimango aro ka·mao on·sogiminrango pangchakna mangen.

- Ge·na gita a·a dongani .
- Botna tangka ma·pang dongani .
- Kam ka·gipa manderangko man·ani aro gipin mandapanirang dongani.



Dendrocolumus Giganteus (Kosakgipa)
aro Bambusa balcoa (kamagipa)
wa·arang



- Chalaina bil dongani
- Wa·ana aro me·ana bajar dongani.

BIAPKO BASEANI: SELETING THE SITE.

Wa·a ge·anirang a·ketgipa bimango ong·oba simsakanina altugipa ong·ska. Man·na dipet ge·anina a·ketgipa a·arangko ba·sena nang·a. Ian simsakanio tiktak onganiko on·a.

Ge·anirang piprae gipin biaprango chanirang mitamrangko simsakanio komiataniko ra·baa, uarangna banga nanganirangko nang·a, jekai guare ka·ani aro apale simsakani . A·ketgipa biapo bange ge·ode raanirangko aro pala – simanirangko komiata.

Wa·arangniko a·aniko cha·aniko man·e ba·gipa jadir gnanng tanggipa ong·a. Uni ja·tarang piprae wilwilaogipa biaprangko kanggopa ra·a. Ian chapchap chagipa gipin geanirang dong·ode uarang cha·anina aro chijimgipa biaprangna bada susa dakaniko ong·ata. Uni gimin ge·anirangko pangnan biaprangko pangni kri seokna gualna nangja.

Wa·ako gipin ge·ani gnannggipa bari ba apal sepangsrangao ge·ode uni ja·ta aro jadirrangni gipin ge·a bariona sokangjana gita maikoba champenganina ragatna nanga. Indake ong·a obostaoniko naljokatna gita biap damgnini gisepgriko donggeko komibeoba 3 - 4 feet tu·e aro 2 -3 apale choe simsaksona dakna man·a. Donggeko nirok –sandianiko bilsianti dakna nanga.



Ge·anina namgipa biap.

Ong·ja

A·solsolbegipa

Balwa nangrangra ba namen balwani obostao

Chi jokgijagipao

Namen rangipa biapo

Ong·a

Apsan ong·e a·solsol dakgipa

Tarakgipa balwaoni rakkia man·gipa

Nama a·sal gnanggipa biapo

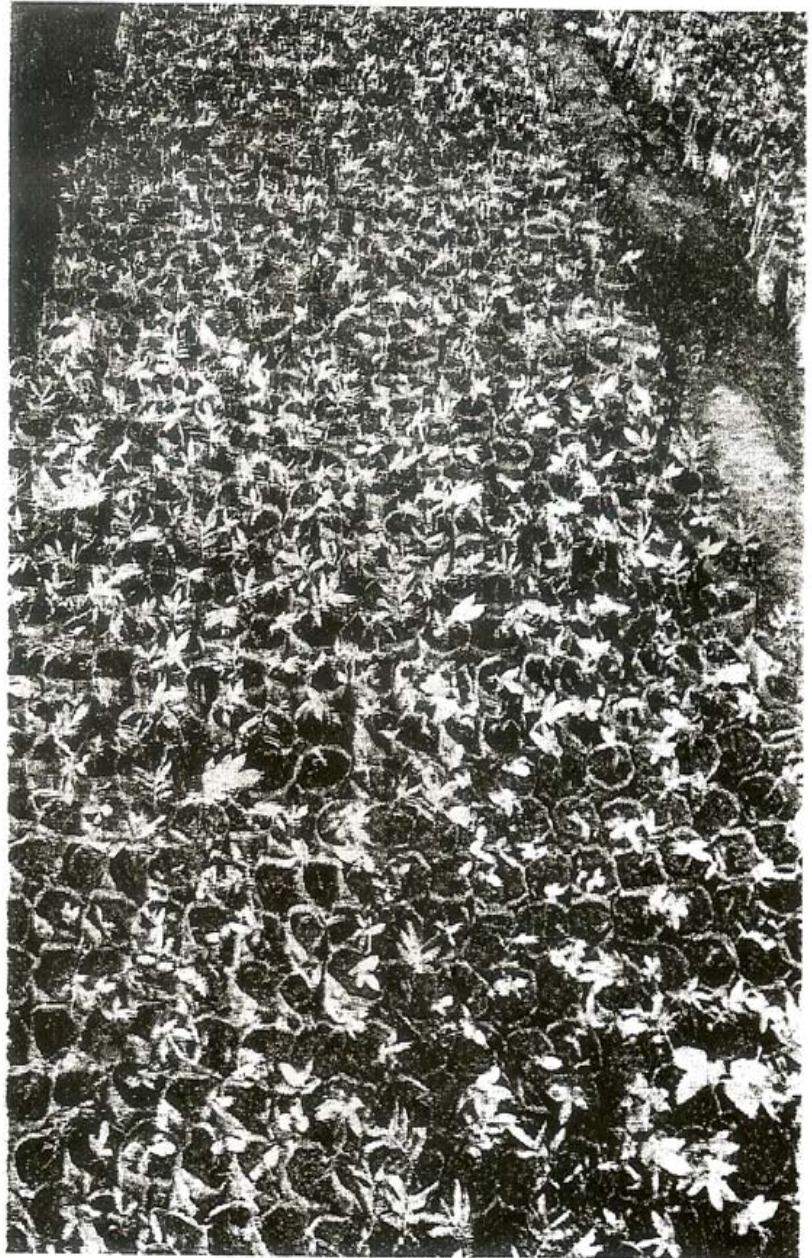
Chijimgipa biapo.

JAWAIANI IAN GE·ANI BAK ONG·A.:

Nursery as part of plantation.

Jawaiani ian mingsa dakna nangchongmotgipa ge·ani bak jechi wa·a ge·ani aro rakkianirangani a·bachengani ong·a.

- Jawaianio skanggipa nanggipa bosturang.
- Sigiparangna ge·songanina skanggipa nanggipa bosturang



Jawaianira kam
ka·giparangna namgipa
skianiko on·a. Ian kam
ka·giparangko wa·ani
bakrangko name
masiatanina aro uarangni
kam ka·anirangni gimin uina
dakchaka. Unbaksa ian
dambe, bregimin aro
dalbaenggipa wa·arangko
chalaina changanikoba
sikjote on·a.

Bitchilkoge·ani rokomko dakanio banggija somoirango kam ka·anio sulsul dakna man·a, jedakode ge·anio kam ka·giparangna somoiko tiktak ong·e jakkalna man·gen.

Ge·a gamanira namgipaoniko ge·ode (wa·a ja·ta, bipang aro cheksi denkrekgimn) mongsongbate ge·anio jelataniko on·a. Iako jakgitele bitchilrangko jawaie ge·na man·a aaro bang·a man·dapaniko on·a.

Bitchilko jawaianio dingtang dingtang miksonganio ge·a gamaniko dakna man·a. Chongipa ge·anirangoni a·bachenge dalgipa ge·anirangona sokdona man·a, jensalo nanganirang sokbaa aro changsa changa sapahaode chalaianirango kadonganiko on·a.

Jawaigimin bipangrangna nanganirang:

- Ge·aniko dakna sienggipa dams biapo namgipa a·sal gnangipa ong·na nanga.
- Chu·onga gita jawaichakani biaprang an·cheng a·sal arro bari namgipa aro ge·togipa biap ong·na nanga.
- Salakimko on·na man·na gita, ramram wa·a aro am pangchi rikgimin dongna nanga, ba banga nokrangko aro salakimna tarisamsoaniko don·a man·ode nambata.

Dingtang dingtang Wa·ani rokomrangko baseani

Ming 130-na Indiaoba wa·ani rokomrang gnang, uaragonikosa basee biap namgipa, dal·giparango ge·a. Uandakgipa mitam wa·arangde gipin a·songniko ra·bagiparang ong·a aro mitam bang·gijarangsang a·songtangoni ong·a.

Indiao donggipa wa·arangni gisepo ge·na nambatgiparango ka·mao mesokenga: *Bambusa balcoa*, *Bambusa bambos*, *Bambusa nutans*, *Bambusa pallid*, *Bambusa polymorpha*, *Bambusa tulda*, *Bambusa vulgaris*, *Dendrocalamus brandisii*, *Dendrocalamus giganteus*, *Dendrocalamus hamiltonii*, *Dendrocalamus strictus*, *Melocanna baccifera*, *Ochlandra travancorica*, *Oxytenanthera stocksii*, *Schizostachyum dullooa* and *Thyrsostachys oliveri*.

Janpgimin wa·arangni giproroanirangara ramram jakkalanio ba palna-botanio aro mitamrangara sualgrikanirangchi giproroanga. Biapni kri uarangna bimung minga uarangko chapter 2-o mesoka, uarangko ge·na niamrang gita ong·jaoba biaptango simsake obostani kri ge·anian nambata.

Janpgimin rokomrang baksa ming 16 wa·arangko batanggimin bilsa 10-ni gisepo Indiaona ra·bataiaha. Uaragoni, *Dendrocalamus asper*, jekon South East Asia jolo ge·achim. Ua wa·a me·a cha·na nambea aro wa·a manchaba jakkaltobegipa ong·a.

Wa·a ge·on brine ge·na man·ode nama, komioba rokom 2 ba 3 ong·na nanga; indake dakanichi wa·ram kario nosto ong·aniko komiata. Mesokna, me·a man·ani somoio bilsa ru·utgiparangde ja·gogtokskaa. Bang·a rokomrangko apalgipa biaprango ge·ode chotchanggija palna-botna man·a,

Wa·ani rokomko baseani iarango pangchaka.

- A·ao aro sal-somoirango
- Bon·kamao pala-botani
- Ge·anio nanggipa bosturango

Badia biapo mai dakgipa rokom wa·ako ge·o nama uko ma·sie ra·chengna nanga. Ua wa·arangko ge·on bano palna-botnaba man·gen ukoba tale ra·chengna nanga.

Wa·ani rokomrangko baseahaoba nang·nig e·a-jota-nio pangchaka, uarangko ge·on mai dake simsakna nanga, badita ja·pangko nina nanga uarangko; jekai.

Dingtang dingtang rokomni wa·anrangko ge·ani

- Lekaa tarina aro indake rokom rokom karkanarangao ia somoirango wa·ako bangen nanga. Uarango jakkalna wa·a namako nanga aro daba uni kri ong·a. Bang·bata wa·ani rokomrangan lekka tarina nanggipa nom·gipa bakrang nama.
- Indake wa·aoniko tarina bilsu chu·sokna (Komioba bilsu 4) aro namgipa ong·na nangna. Chatgipa damdil aro chugipa gan·sangrangko riknade rakgipa aro wa·sagipa wa·arang jekai, *Dendrocalamus hamiltonii*, *Bambusa nutans*, uarangni rokomani nambata.



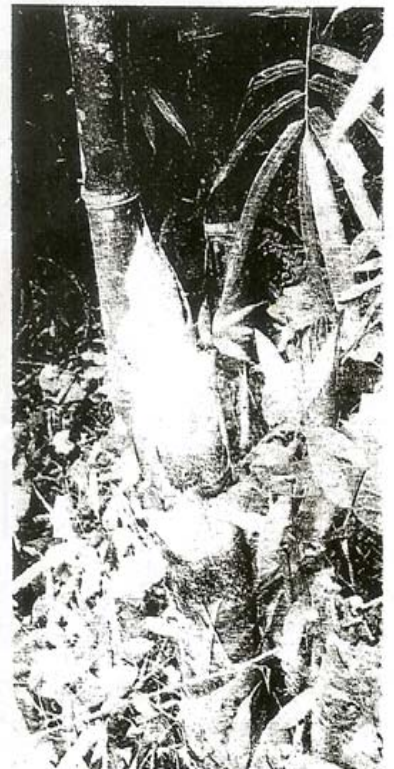
Bambusa tulda (jakasio) aro Bambusa nutans (jakrao): je wa·arangkon bolni pal jakkala

- Bang·bata wa·arangkon nokni nangarangna, watna-chengna jakkala. Jekai basket-rangko jatchi India jolode *Dendrocalamus strictus* wa·ako, Tripurao *Melocanna baccifera*, Himachal Pradeshho *Dendrocalamus hamiltonii*, Karnatakao *Oxytenanthera stocksii*, Keralao *Ochlandra travancorica* jakkala. Bang·bata kamrangna bria chu·soke mangrakhgipa wa·akosa nanga.

Bambusa balcooa(jakasio) aro
Oxytenanthera stocksii (jakrao): Nok
rikanirango jakkalchapgipa.

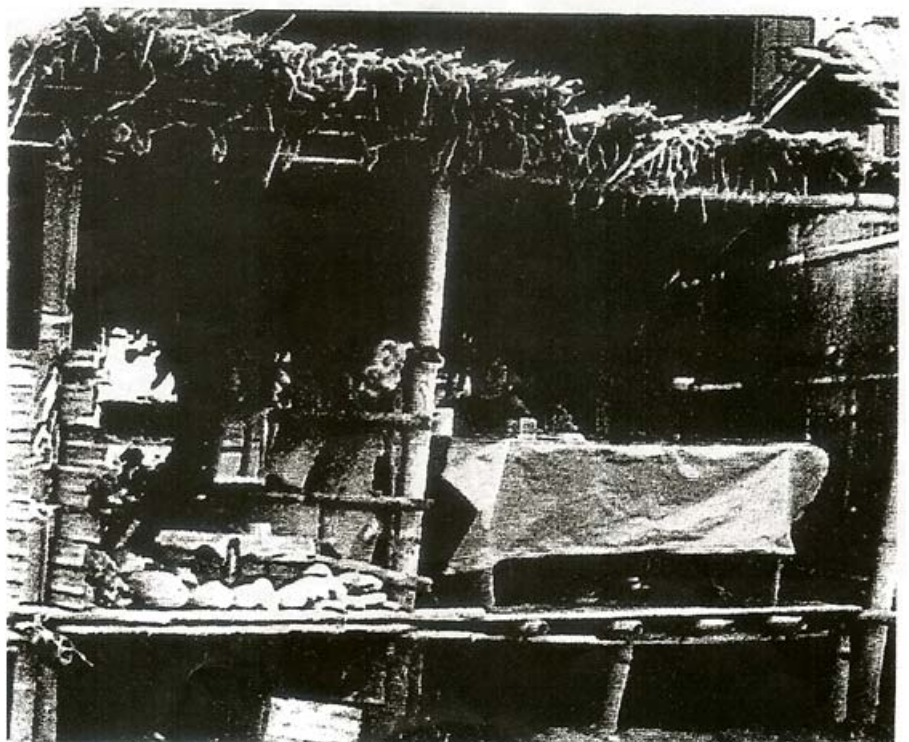


Dendrocalamus asper w·ani me·a
(jakasio) aro *Dendrocalamus hamiltonii*
(jakrao)



- Indiba bang·bata rokom wa·arangkon me·a cha·nade jakkala, uarangoni *Dendrocalamus asper*, *Bambusa balcoa*, *Dendrocalamus hamiltonii*, *Schizostachyum dullooa*.

Jatni kri, nokni nanganirangna aro watna-chengna mongsongbate a·jatango donggipa wa·arangkon jakkalaia. Bang·a ritcha bilsirangna biaptango man·gipa wa·arangkosa manderang ge·a, aro ua rokomrangsang gnang. Wa·ani rokomrang jakkalna gita chu·onga gitan donga indiba watgipa-chenggiparang jekon jakkalrongachim ukosa jakkalbata. Nokna jamnaba nama aro gitang wa·arangkosa jakkala jean jakkaltobatachim.

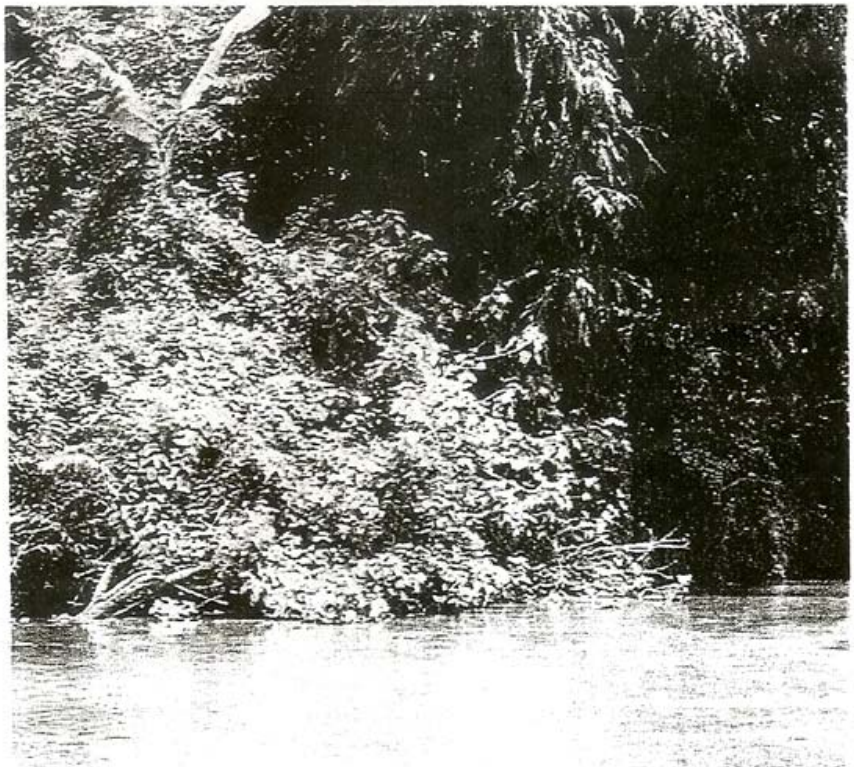


Biapni kri jakkalgipa wa·arang: Maiba ge·giminrangna dilnenggipa (kosakni jakaio), me·a (kosakni jakrao), me·su palna rikgipa nok (ka·mao)

Sal-somoirangko nie ge·ani (Agroclimatic Requirements)

Wa·a japango wa·arangni dal·roroanio silani-namaniara dingtang dingtang a·selrango pangchaka. Jekai iarango pangchaka, a·ani rokom, sin·a-ding·a, sal nanga, a·a ga·nanga-ga·nangja, bawa nanga, mikka aro a·a chijima-chijimja uarango.

Wa·a mongsongbate a·a ga·nangao ong·jaode adita a·solsol dakao, a·sal gnanggipa a·ao, a·a chijimgipao, chi jokatna dara name kitgipao dal·ningbata. Mikka chu·onga gita waosa ja·pango chijime donga ong·jaode chirangko chu·onga gita on·skana nanga. Chu·onga gita kam ka·sokna man·jaode wa·arang, samtangtangchin buringario, a·brini ka·magipa a·kawerango, chiring, chibima, chibol uandakgiparangni rikamrango dal·rorosikaa.



Wa·rangni chu·gimik nama silanide namgipa sal-somoirango pangchaka. Namsranggipa sal-somoirang ong·jaoba adita jakkaltogipa wa·arangkon man·a. Indake wa·a samtangtangko name rakkianio aro simsakbee ge·aniosa name-sile dal·a.

Janapgiparango ong·gijade a·a ran·gipa aro a·sal grigiparangode wa·arang dal·skaja aro chonchona aro man·anirangba komia indakede ong·ja.

Bang·bata Indiani wa·arangan agre ru·ute sin·ode aro suri onode nosto ong·ninga Uarang ran·gipa biaprangode name dal·ja jekai, Ladakh-ni sin·gipa a·gisirango aro Saliramo Rajastan-ni ding·gipa a·gisio. Agre a·solsol ong·gipa biaprangoba name dal·na man·ja.

Wa·ara ge·e tangatna man·ninggipa ong·oba chiskonggipa, kari nanggipa aro ro·ongarigipa biaprangode silatna man·gijagipa ong·skaa. Chi skonggipa biaprangode wa·ani ja·dil aro ja·ta sonaba gnang aro ge·gimin pilakan sinaba man·a. Unagre, agre chi ruoba ong·jaode donggerango chiblok dakatoba ua apsan a·selrang ong·na man·a. Je somoioba a·ningni chini chua metre 1-na batna nangja.

Chugipa a·brirango ge·ani (Altitude)

Bangbata bading-chiwalna jakkalgipa wa·arangan (Chapter 2-ko nibo) a·kawe ong·jaode metre 400-500 chugipa a·brirangosa nambate dal·a. Badiaba rokomni wa·arangde metre 500 oni 1500 chugipa a·brirangoba namaia, aro badiaba rokomrangde batesa a·kawerangode namja indiba metre 500 mang chugiparangosa namskaa. Jamano janapenggipa wa·ani rokomrangan jedakgipa biaprangonamachim uarangko mesoka.



Chugipa a·bri Himalaya jolrangoba
 1220 oni 2500 metre-rango
 Sinarundinaria falcate (Ringal) wa·arang
 gnang. Indita chugipa ,Uttaranchal-ni
 Kumaon aro Gartwal districtrango aro
 Himachal Pradesh-o indakgipa wa·ani
 rokomko nikna man·a. Ia wa·ako nokni
 nanganirangna jakkalan baksa wata-
 chengana, milsi bipongrangna jakkala.
 Uni bijakko nokking rapnaba jakkala.

Bambusa balcoa	300 metre
Bambusa bambos	800 metre
Bambusa nutans	1200 metre
Bambusa pallid	1800 metre
Bambusa polymorbalcoa	800 metre
Bambusa tulda	1200 metre
Bambusa vulgaris	1000 metre
Dendrocalamus brandisii	1200 metre
Dendrocalamus giganteus	900 metre
Dendrocalamus hamiltonii	1200 metre
Dendrocalamus strictus	800 metre
Melocanna baccifera	800 metre
Ochiandra travancorica	1500 metre
Oxytenanthera stocksii	700 metre
Schizostachyum dullooa	1500 metre
Thysostachys oliveri	1200 metre

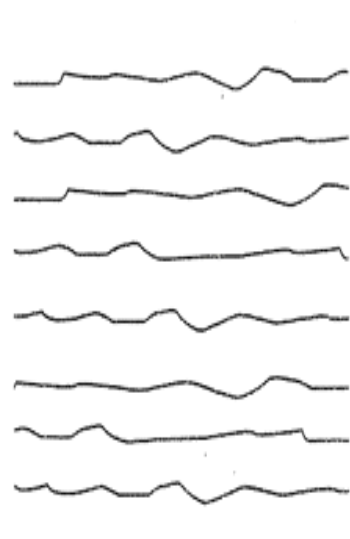
Biap-a-jarangko tariani (Site Preparation)

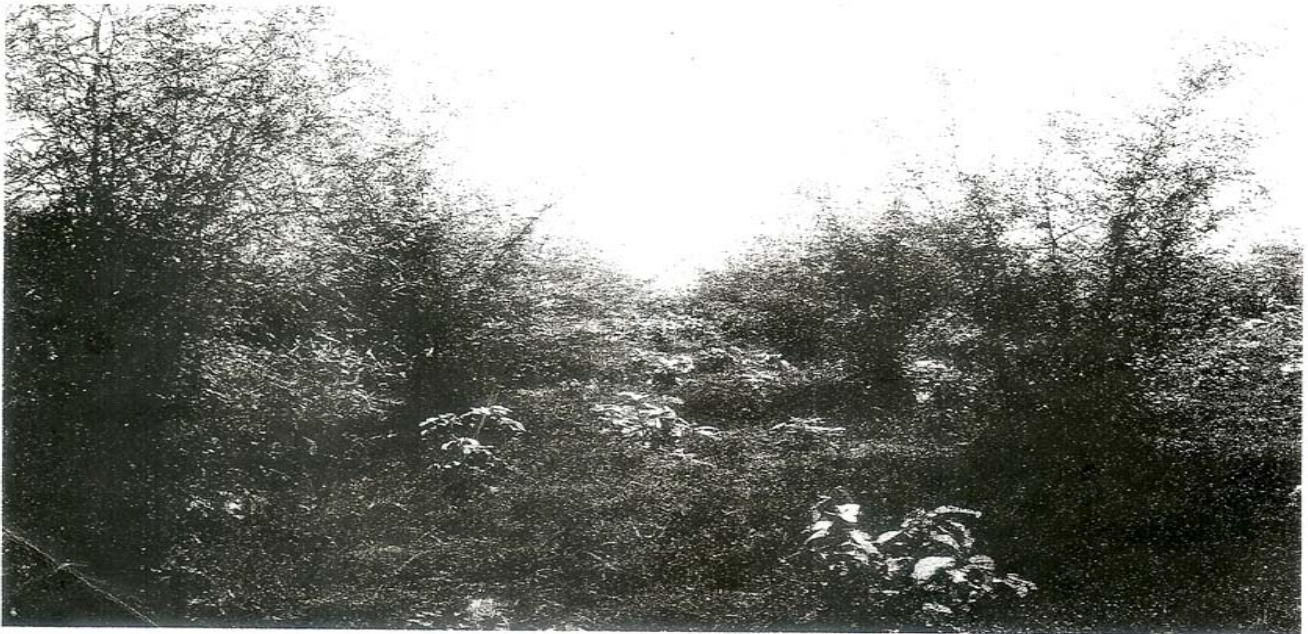
Wa·ako ge·na skang biap ba a·ako name tarichengna nanga; skanggipa a·a mai rokom uko am·sandianiko aro tarisroksoaniko aro tarina aro gipin nanganirangna badita korosrangko nanggen uarangko hisapsoode ja·mano altugen.

Rongtalatani aro a·ako gamsoani (Clearing and Ploughing)

Boldim aro samcheng-bolchengrangko rongtalatchengna nanga, jerangan wa·ana on·gipa a·salrangko sal·opaa. Indakgipa samrangko galode kamko nengraatan baksa nambata biapkoba pila·ata. Uandakgipa sangipinrangko donode saina on·an baksa dakna nangkua kamkon ka·gija donkua gita ong·a.

- Man·ode a·ako ning·tuen gamna ba hal wena nanga. Nama a·salrangko bnekate dontaina nanga, uandakanichi a·ani gadangrangko bariata.
- Rongtalatani aro hal weani kamko ge·na anti gittamrang skang dakna nanga. Indake dakon bnekgimin a·salrangna chu·onga gita bal-sal nangdapa.





A·salko Namdapatani: Soil Amendment

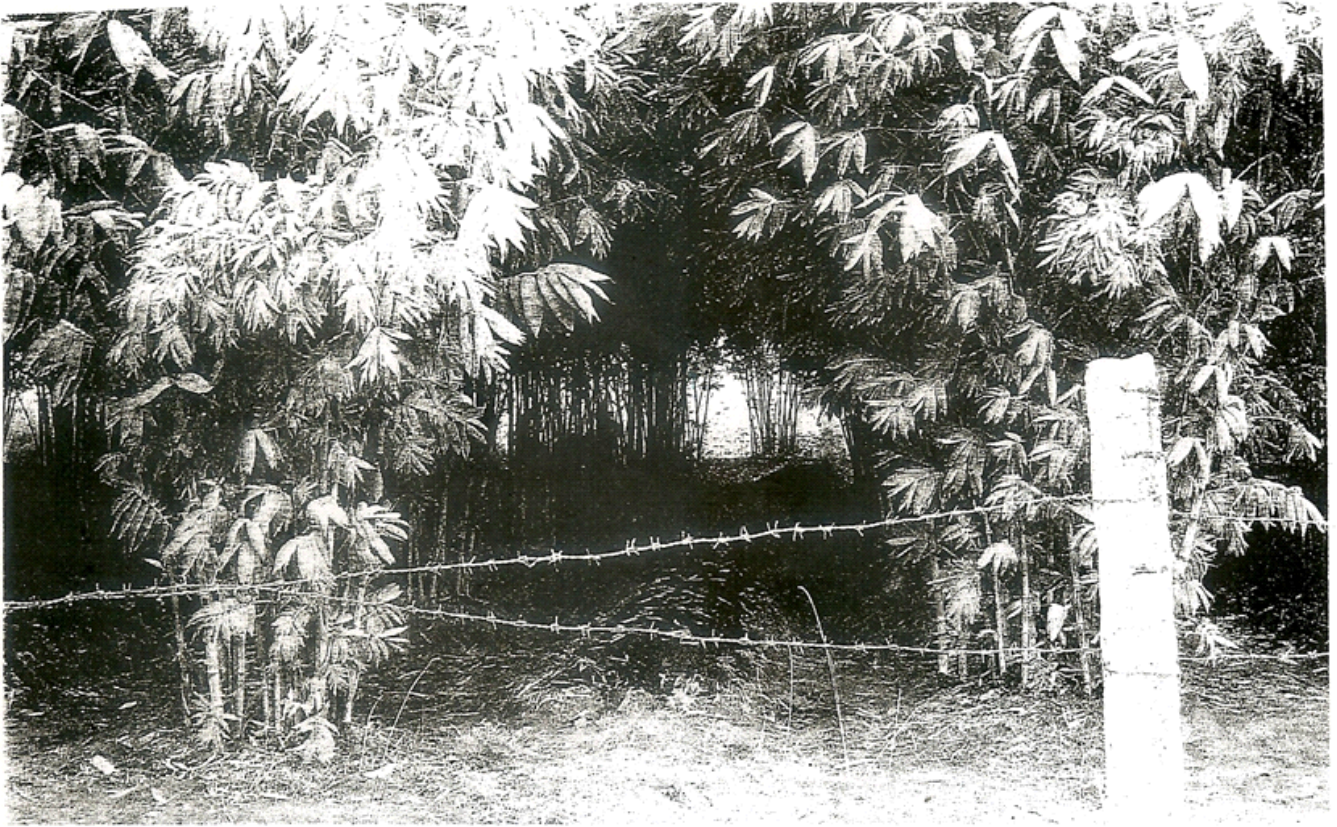
A·salko namdapatani fly-ashko nina dkanio nama ine nikaha. Fly-ashko a·salko namdapatna aro wa·ako ge·anio nama obostao ong·engao apsan dake donangkuna jakkalna ma·a. Mongsaongbate jeon cha·ani chuongjaenggipa aro pangna nengnikko man·enggipana.

Guare aro Chelchake Rakkiani; Fencing and Protection.

Guare kaani aro wa·bipangko chelchake rakkianiara uko chalaianina altubatata. Guare kaani dam chatnaba donga indiba uno banga somoirangna naljoke ripinge donani ongskaa nambata biterangko mananichi. Ge·a gamanirang guare kae iarangoniko champengna nanga:

- Jilgipa-kagipa matburunrangni chaamani, mande aro matburungni gabekbekani mongsongbate jensalo wa·arang dambekuenga aro brekujaengachim.
- Me·arangko cha·na ra·ani jekon chatonike matburungba aro mandeba ra·a.
- Wa·bipangko chauwaoniko.

Guare kaanira wa·a ge·a biapni dongimin arirangko name rakia, guareni rokom kamao on·giparangoni mingsa ong·na man·a.



- Guare kanio gitalko on·dapna man·a jekon ajtango man·a ama; jekai ro·ong, busuarigipa boldim aro wa·arang.
- Cattle-proof donggerang. Ian jakkalbrejaoba namen chusokgipa jakkalna namani ong·a.

Changija-minggija bakni guareko, bepruako aro oprake donanoniko gelna nanga. Nirok sandijringanira nama pangchakna man·aniko ba kadonganiko on·a, aro chotchanggija rakkianira name chusokaniona ra·anga.

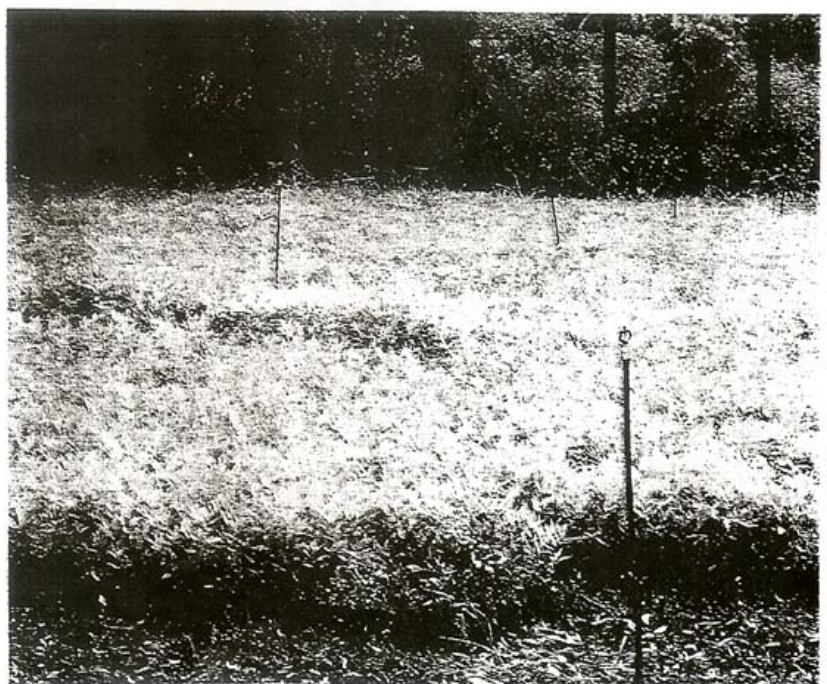
Ge·na sigipa biapko guare ka·e donsoode nama, skanggipa ge·ani kamrangkho kana skang; jekai a·ako tarisamsoanirang, akol choanina aro ge·anirangko dakna skang.

Ge·ao Jakkalanirang

SOURCING: Man·ani Cholrang

Apalbea wa·ako ge·na gita wa·a jawaigiminko nangchenga. Wa·a pangni dam ra·chakani ong·na nanga, jawaigimin wa·bisarang bimung nam·ako mangipa ong·na nanga mongsongbate uarang jeoni sokbaa. Ge·ani bosturangko Forest department aro Governmentni jawaigiminoniko man·a ama.

Ge·ani bosturangnara uni ong·baani mapango donggiminko rabaa gita apsan daktaigiminrang ong·na nanga. Ian nambatgipa chol ong·gen je uni ongbaaniko uiataniko on·a man·an baksa namaniko gimin parakanikoba dakjola.





Bitchiloniko ge·gipa bipangrangko be·eni bakrang ba chasongrang ine mingna man·a kraa, indake nangnikgijagipa samrang aro bibalrangko komiata, Indake ongoba bitchilrangra ja·tako aro pangko dene geana bate uni breani aro chusokgipa bimangona rebana ruuta somoiko nangskaa.

Dambeko geanirang mongsongbatgipa bewalrang ge·a aro bipangko rakatna man·ani rokomrangkoba da·a man·a amaha, aro uarangko kraa damo bading chiwalani bewalo ran·na man·a. Indakgipabosturang ba ge·anirang pang sianiko komiata aro banga namgipa gadango apsan bimangni rokomrangko on·a.

STORING: CHIMONGANI

Ge·na sigipa bostuko tarigimin a·kol sepango jawaigipa biaponiko rabae don·a nanga, Ian basakobade ge·gnisigipa bosturangko adita somoirangna chimonge don·a nangnanba donga;ia aselrangni gimin, basakoba ge·na sigipa biaprang somoini kri tiktak ong·jaode, ba tik onggijagipa somoi salrangni gimin. Indakgipa obostarangko bosturangko kasingipa, chijimgipa biaprangko don·a nanga. Indake ian biapni obostani kri chimonge donmiting chi ruaniko nangnaba donga.

TRANSPORTING: BIAP JITANI

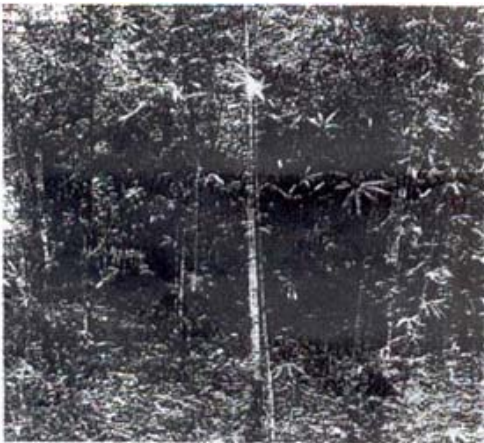
Jawaigimin wa·bisako biaponiko ge·na sienggipa biapona ra·angskana nanga. Ian bange ge·giparangna ong·a, maina rangsan ge·anirangara indakgipa ge·anide chusokaniko ra·barongja. Una agreba ja·taoniko geani(jean tiktak gitasan manaia, uarangko rangsan gena man·a) gipin bosturangde jelatanina namgipa ong·ja aro uarangko jawaigimin gitan biapo ge·na skang adita jana nirok-sandianiko dakna nanga.

Bangbata jawaianirangkoplastic jolarango jawaichakna man·a.dakrongbewal gita plastic jolao ge·gimin pangrangko gipin biapchina ra·angna, salsa ba salgnina skang uo chi runa nangja jedakode dambe jadilrang aro ja·tarangni a·arang bretjawa. Ia niamko dingmiting somoio ba bostuko chela biapchina raangna skang dakna nangja.

Jensalo ja·ta gnang wa·ako gipin biapchina wataton pangni bak tongsa a·a ningo ong·na nanga aro uko chalja ningo name makete sikna nanga jedakode ritimgitalrang nosto ong·atako man·jawa.

PLANTING: GE·ANI

Wa·a ge·na miksongani dongon biaprangko aro ge·ani bosturangko tarie akol cho·e dona ngna.



Ge·aniko senggnangkale pringni somoirango dakna nanga, uamitingo ge·ani bosturangko namgipa aro kasingipa biaprango dona nanga. Ongtelaigipa salakim dongjaode dikdiksa somoina salakimdapaniko tarie dona nanga.

Ge·aniko ama dipet banggija somoion matchotatna nanga aro man·a dipet apsan somoion ra·na nanga. Ge·ani bilsisa jamano wa·arang siode bangbate ge·aniko dakna nangnaba donga.

SPACING: BIAP DONANI

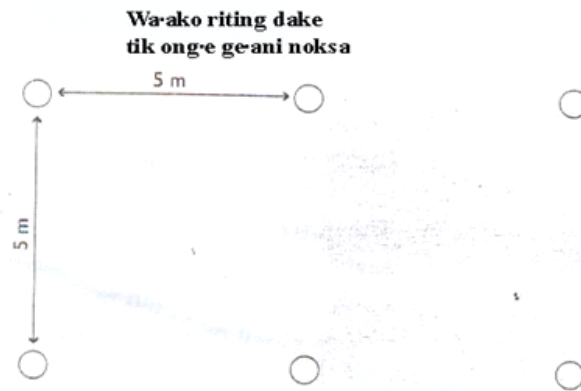
Wa·a ge·na biap donanira maidakgipa wa·ani jatko gegen unosa pangchaka, unbaksa ge·ani rokomrango aro a·salrangni obostani kri ong·a.

Maidakgipa bimang wa·ani jatko maidake ge·gen uko name chanchichengani maongsonggipa ong·a. Namen chate ge·na (i.e. sepanggrikale) chongipa wa·ani bimangan nambata. Aro chatgija ge·nara (i.e. cheltanggrike) dal·gipa bimangni wa·a nama.

Wa·a ge·aniko agre chelgrika biapo ge·ode wa·arangna namgijaniko ra·baa, a·salrangni chijimanirang biba baksa chadoanichi sosigipa a·salni bakrang gimaataniko man·a, aro gipin sambolrang baksa susaani sokbaa. Wa·ako name biapni kri ge·gijanira wa·arang an·tangmangni gisepo tenganina, biapna, chijimgipa a·salna aro cha·anina seksekaniko ong·ata.

Ge·ani asol miksonganira wa·aoniko dongkamgipa chiringko man·a ong·ode kamao on·sogimin niam gita biap donaniko jarikna man·gen.

- Bijangchigipa diametre pakma chatgipani jatna, 5x5 metre. Iano pang 400-ko hectare-prako nanga, ba pang 160 ko acre prako nanga. Ia biap donanira ia wa-arangna nama, Bambusa tulda, Bambusa nutans, Dendrocalamus asper aro Dendrocalamus brandisii. Name simsake rakkiode iara 6x6 ba 7x7 metrerangona changroa.



- Chongipa jatni wa-ana, jekai *Orchlandra traavancorica*, 4x4 metreni biap raania chu-onga. Iano 625 pangrangko hectare prako nanga.
- Dal-batgipa wa-ani jatna, jekai *Dendrocalamus hamiltonii*, biap raani 7x7 metre, ba 205 pangrangko hectare prako nanga. *Dendrocalamus giganteus* 10x10 metrerangonaba ra-a ba 100 pangrang hectare prako.

Wa-ako ge-ani skanggipa a-ako mangrakatanina ong-ode, indake chonkale biap dona man-gen: 3x3 metre (1,100 pangrang hectare prako) rangang chuong-a. Chirikamni a-ako chamaniko aro beruruaniko champengna miksongani ong-ode 3x3 metrerang ba 2.5x2.5 metrerang ong-e biaprangko dona man-a. Indakgipa obostao wa-arang name aro tarake dalroroatako man-a.

CHIRET BA DONGGE DAKANI BEWAL: BUND AND TRENCH METHOD

Chiret ba dongge dakani bewalna biap ra-anira wa-a ge-anio manchapa uno metre-1 apale aro 50 centimetre chue chiretrangko nanga. Chiretko akolrangko choe aro a-ako chongdoe taria. Chiret bijangchioni gegipinona 5x5 chelna nanga aro gegipaonide metre -5-rang ongskana nanga. Chiret aro a-kol choaniko chu-onga gita daksamsoniko name tiktak ong-e dongsochina ge-aniko dakna skang dakna nanga.

Chikare ba dongge dakani banga kadonganirang donga. Nama a-sal gnanggipa chireto je akoloniko a-salko donachim uno wa-a geode name chaa. Bilsa gipino banga a-salrangkon akoloniko choe wa-ajapangni wilwilao a-ako chongdoe dona man-a.

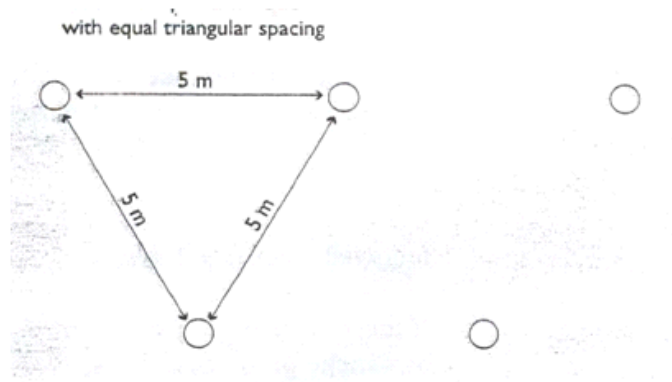
Ia niam pangrangko name dalatna dakchaka. A-kolrangko chi سوالانينا aro a-sal tarina jakkalna man-a.



Ge·a gam·anio indakgipa bewalko jakkalanio haida ramram ge·anirang baksa tosusaode rakbatnaba donga, indiba ian ge·a gam·anirangkonambatatani ong·a.

TRIANGULAR SPACING:KONA GITAM DAKE BIAP RA·ANI.

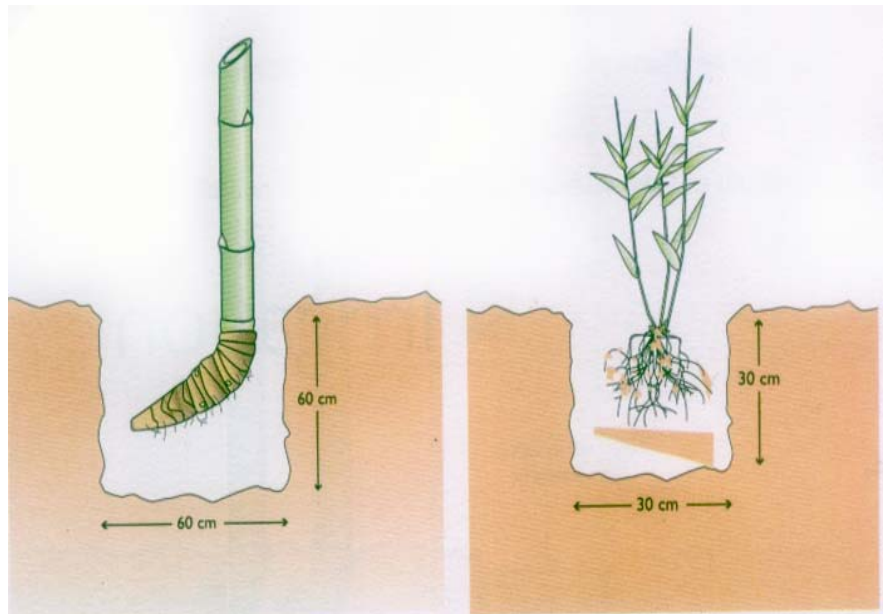
Bading chiwalaniko tangdoatna, wa·bibimna aro me·ana wa·a ge·aniko dakna timchang dakgipa ge·ani nambata.Iako dakanio a·ako jujae apsan ritingo akolko gegipingipa skang ritingni jatchio daksoa.



Ian a·ako jakkalaniko on·a aro gipin biaprangona gipanganiko komiata.Ua apsan somoion bipangni ritingni chelgrikako apsan ong·e rakkia jeon a·sal ong·atanina jakkalna man·a aro altuae re·ruranaba.

A·KOL: PITS

A·ako rongtalatani jamano a·kol chona skang biaprangko a·kolna nangnikangita toani ostrochi toe rachengna nanga, uni jamano bolni goolchi ba wa·achi jangchina dated dona nanga.A·kolrang chu·onga gita tuna nanga, jedakode changsa a·kolo donaton wa·ani jadilrang kosakchina tangdobajaowa, aro cha·anina unbaksa chijimaniko jadilrangni am·anio rakchangani ongjava.



Ge*ani niamde, ;a*kolko badita dal*e cho*a inditan wa*a ja*pang dal*e sila', indiba ia niamara palnasan ong*ani gimin korosba aditan nanggen. Wa*a ja*pangko ge*songode a*kolko indita apalatna aro tu*atna nanga 60×60×60 oni 100×100×100 centimetre-rang. Ja*guko ge*ode on*tisa komie indita apale cho*skabo 30×30×30 ba 45×45×45 centimetre.

A·kolko mikka wana skangan cho·e donna nanga aeo a·kolni a·mangko salak-wachi chakatna nanga.

A·kolni dal·a-dal·jade wa·ani rokomo pangchakan baksa uni nangani kri dakna nanggnirango pangchaka.

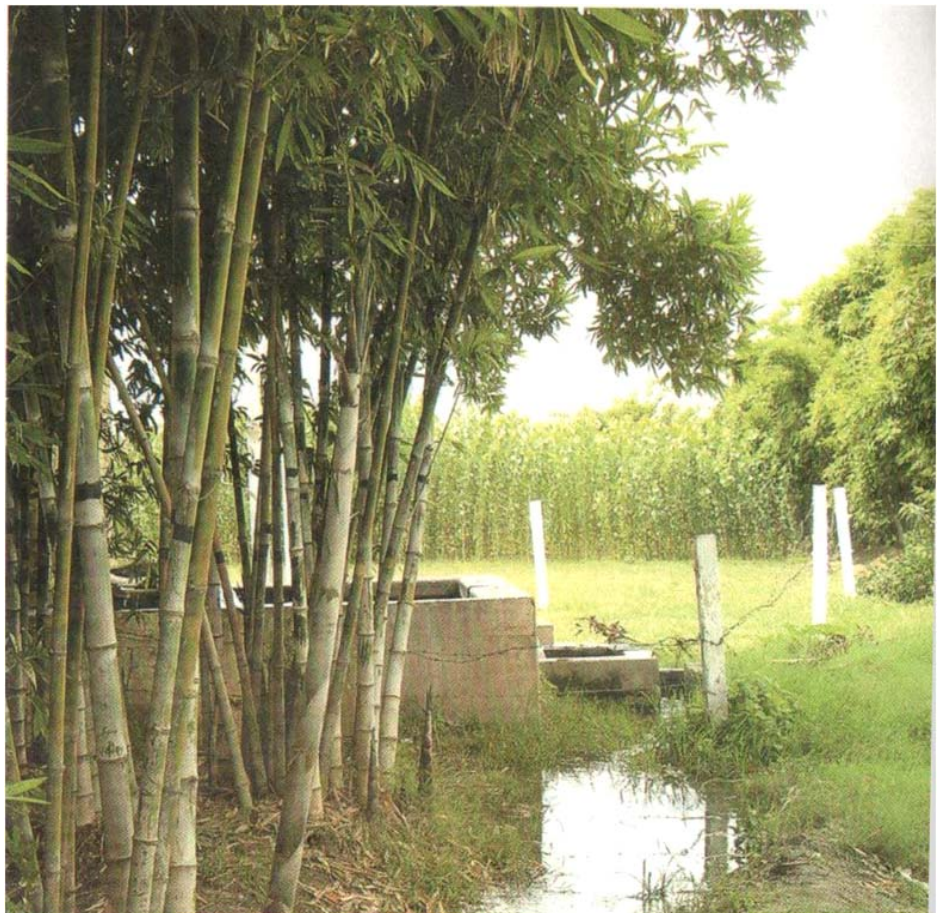
Ge·ani somoio nangrangko dakjaeming chusokgija ong·na simsakbo.

- Salsa-salgni ge·na skang, kolkumangni a·mangko name chipilatbo.
- A·koloni feet 3-4 chel·aonan samsirango pike galbo.
- Cm. 60×60×60 ong·gipa a·kolo, a·mang baksa kg. 5 a·sal, gram 100 urea, gram 100 super phosphate aro gram 50 potash gitchakmrango brinbo. Uarango brinode dal·ninga.
- A·kolo wa·ako sronge ge·bo, ja·dilirang tem·ama tem·ja ukoba nibo.
- Bringimin namgipa amang·rangchi a·kolko apsan ong·e gapatbo.
- Ge·ani ja·mano sal-somoi ding·a ding·jani kri chiko litre 12 oni 20 ona rubo, unosa ja·tin aro ja·dilirangona a·salrang sripanggen aro a·aba a·kaanggen.
- Salgipinoba nangani kri chiko rutaibo. Anti 10 nade chiko mikka komiode rubo aro princhi baraan ruode nambata. Ja·manode sal 3 ni ja·mano chang·sa dake ruaibojok.

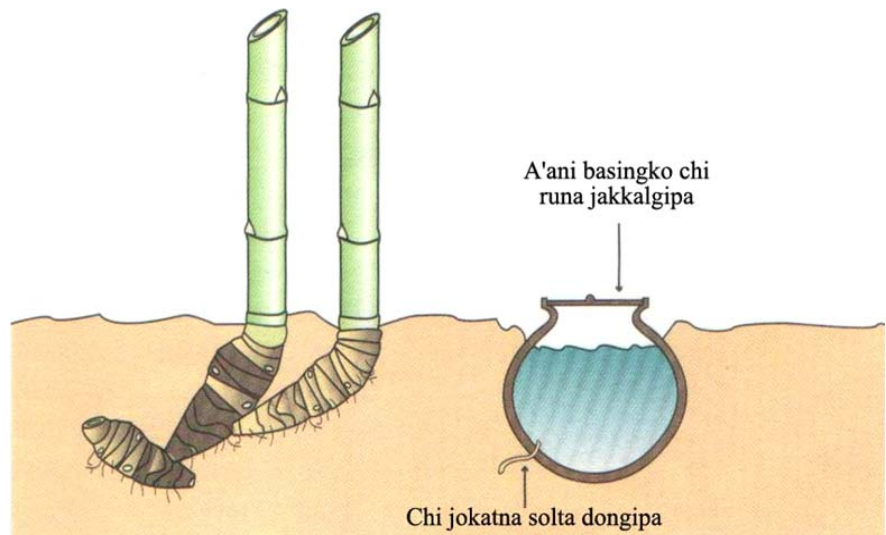
Chi ruani chol (Irrigation)

Wa·ani jatan a·ao chijimkamaniko nanga. Ge·ani skanggipa bilsirango simsakbataniko aro chi rujringaniko nanga. A·a ran·ode ja·tin aro ga·brongba dal·rorona neng·a.

Dongge (dara) tarion ge·gital wa·arang sile name una nanga gita chiko on·a man·a. Dongge tarianide biap apalani kri aro dal·chakatani somoio a·a chijima chijimjani kri ong·na nanga.

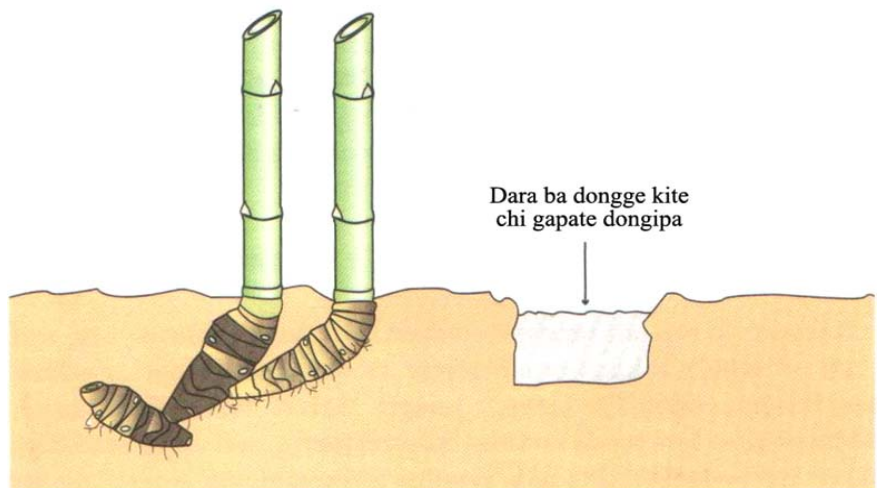


- A·rankariode komioba donggeo antio chang·sade chi gapatna nanga.



- Chi ran·tekmitingode, chiko chotchanggija tingtotatkamaniba aditan nama; indiba unade adita bosturangko nangan baksa kam ka·gnirang donga, una agre adita korosrangkoba nanga.
- A·ani basingo ka·machipak chi jokna a·kolko pue uno soltako on·e tarigipa chiko nanga gita on·a namgipa chol ong·a. Litre 2 chakgipa basingo antio changgittam chi gapatna nanga

Indiani bijatchi jolode 'rongbol' (basing dal·gipa) aro kildingni soltako jakkala. Litre 2 mang chakgipa basing rongbolko ka·mao a·kol chone pue ba·rako solta dakate a·kolo mittue dona. Basingoni salo chi ata litre-mang chi a·ao sripanga. Rongbolko pindapode biba jikanikoba champenga. Ge·daldalgipa wa·ani ja·tinrangna antio chang 3 mang rongbolo chi gapaton chu·onga gita chiko man·a



Nangani kri chirangko rubo indiba chi skongate chibitek dakatnabe. Wa·ani jatan a·a chijimako nangoba chibloko chagipade ong·ja. Chi ruanio nanga gita simsake ruode bon·chipgija batesa nama gadango palna·botnaba man·gen. Mikka waani je biaprangon 700mm-rangna komia, ua biaprangode a·bachengaonin indakgipa chi watani cholrangko dakna nanga.

A·sal on·nani (Fertilizers Application)

A·salko on·ani, simsake dakbewalrang baksa ge·anio nangchongmota. Wa·ako ge·na a·salrangko chu·onga gita nanga, unosa dal·ninga; a·sal on·gijagipamingde tonan amja. Nang·ni ge·anio namgniko ra·banade a·sal nangchongmota.

Tarigimin A·salrang

Wa·a ge·na pilak a·salrangkon chu·onga gita nanga, jekai phosphorous, potassium aro nitrogen, unoni nitrogen a·salkon bang·bate nanga. Nang·ni simsakbee ge·gipa wa·ana bajaro tarigimin a·salrang gnang, jerangan dakchakbea. Ge·chakataonin ua a·salrang a·mang baksa brine on·na nambea, ja·manoba nangani kri on·kuna nanga, indiba badita nangachim uko u·ie ra·na nanga. Dugapile on·ode namtaija batesa nisigipa ong·pila. Ramramgipa a·arangode NPK·ko on·nani 5:2:1 ba 4:2:1·san ong·na nangaia, aro ian a·ako niani ja·manosa ong·na nanga.

Nangchongmotade/Dakronga gitade a·salko on·naniara ge·songana bate me·ako ge·anio bang·e nangbata. Ge·songna tarigimin a·salrangko kg 1,500 a·a hectare prakna bilsil prako nanga. Me·ako ge·osa una bata a·salrangko nanga, kg 4000 a·a hectare prako, bilsiprakna nanga.

A·salko skanggipa ge·chakataonin on·na nanga; aro uko a·kolon a·mang baksa brine on·na nanga. Ja·manode ge·chengaoni bilsisani ja·mano, jagnini gisepo on·taina nanga aro uandaken ja·mangipa bilsirangoba. Nambatade me·a nana anti 4-6·ona skang. A·salko indake on·na, 150gr N+150grP+150grK.

Tarigimin a·salrangko on·non ja·pango ba nangchapede on·na nangja. A·salrang nabaenggipa bimikrango nangjaosa nosto ong·ja. A·salko ja·pangoni on·tisa chel·e, a·akoba chijimate chikare dake cho·esa uno donna nanga, unikode a·mangchin pindape donpilna nanga.

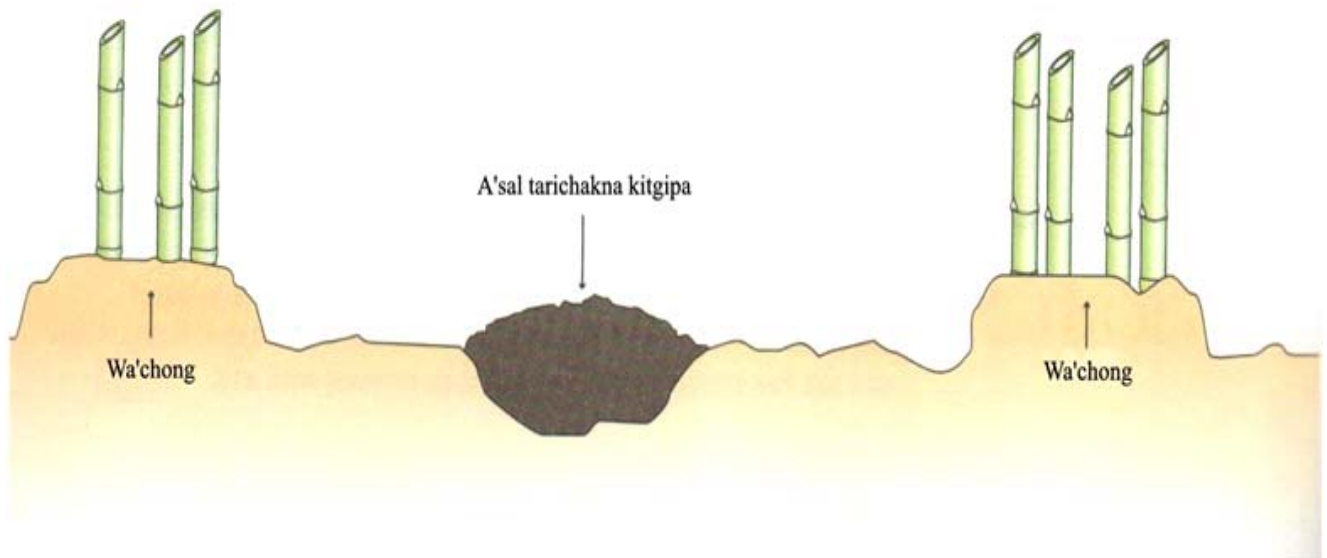
Dal·roroatna on·gipa a·salrang (Organic Nutrients)

Tarigimin a·salrangko jakkalgijaba, jabol, bol bijak ba uandakgipa samjakrangko jakkaleba wa·ako ge·na man·a. Chong·mote indake ge·gipaonikosa me·arangko palnangbata aro wa·anaba nambata. Minggipin uandakgipa a·salrangko jakkalode a·jako ru·ute jakkalna man·aonikoba komiata; a·ani a·mitimkon uarangde bon·atskara.

Man·aniko bariatna, aro nang·ni simsake geanio nanganiko on·nade, mamungkon bringija simsanikosa nangbata.



A·sal tarichakgipa biap



Chemical bringijagipa a·salrangan a·ana namgniko on·bata. Je a·salrangko jakkalon ru·uta salrangna baiachim uko brinchinasa didina namnika. Chemical bringijagipa a·salrangan mikka waoba tarake cham·ja.

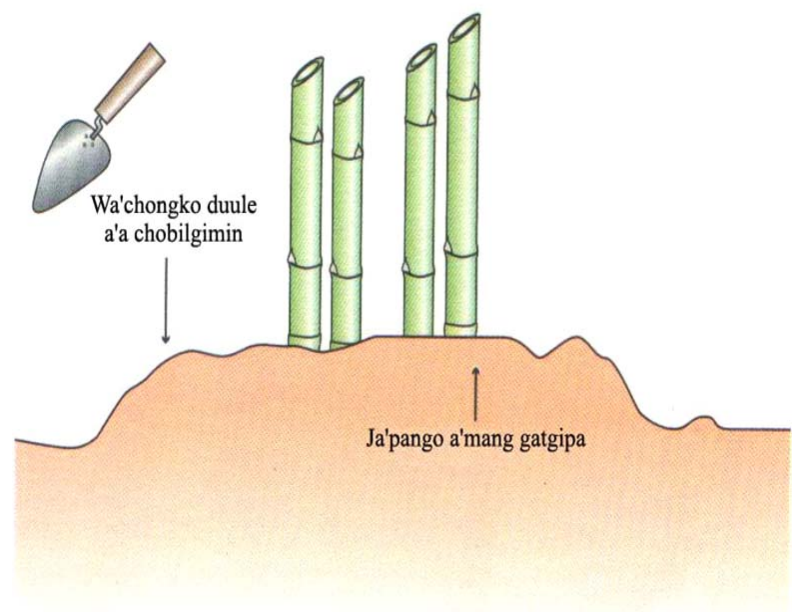
A·sal aro jabolrang dal·rorona dakchaka, jean tarina aro jakkalnaba nengrabea (noksako nibo). Indake namgipa a·salrangko an·tangtangba bikotna man·a aro uarang dongchongmota.

Wa·a bipangko simsakani (Clump Management)

Man·ani cholko namdapatna aro indin gimaoni naljokna wa·a bipangko simsakna nangchongmota aro nangtela. Uasan ong·ja dalrroatna gita samtangtango giparangkoba simsakna nanga. Bing·weke ge·naba nangja.

A·ako cho·bilani

A·ako name rakkina gita komioba bilsio changgni wa·a ja·pangni samtangtangniko cho·bilna nanga, nanga ong·ode una bateba. Cho·bilaniara wa·a ja·dilrangna aro me·a nabaenggiparangnaba nama. A·ako cm 10-15 ning·tue bakbo, indiba cm 30-45-ona wa·a ja·pangoni chel·e.



Sam gipinrangko pike galani

Ge·chenggipa bilsionin chachapgipa samsirangko pike galna nanga, uarang dal·roroaniko ka·sinata. Ge·aoni bilsigninade komioba chang 2, mikka waani ja·mano aro namangsrangomangba talroken samsirangko pikroke galna nanga. Indake chachappiparang mitamde jelna ta·raka aro a·ani kriba ong·aia; indake ja·mangipa bilsirangode komianggnok. Badiaba biaprangode mikka dongjaoba samrang dikaia, ukoba pikroke galna nanga.

Sam dikaniko champengani

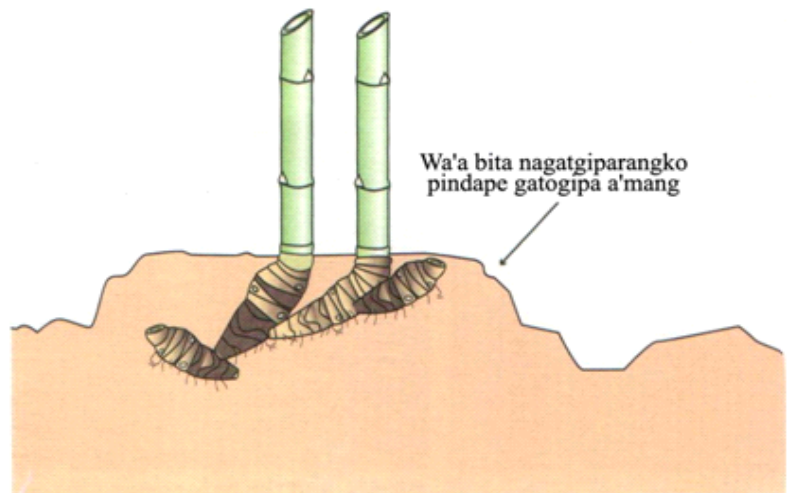
Wa·a bijak ga·akgiminrangan sam dikaniko champengna nambatgipa ong·aia. Ga·akgimin bijakrang a·ako pindape donga aro uarangan a·a cham·aniko aro ta·rake sam dikaniko champenga. Uasan ong·aia bijakrangan ka·sne ka·sne a·salrangba ong·aia. Wa·ana silica ingipakoba dal·rorona nanga jekon ga·akgimin wa·a bijakrangan ong·atachim.



A·a rurongako champengna
dongipa wa·a bijak

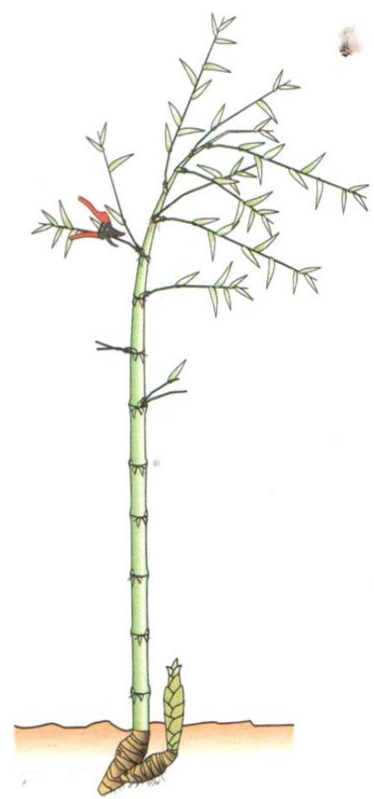
A·a gatdoani (Mounding)

Wa·ani ja·tarang a·ningon dal·roroa, me·a naani somoiosa a·palchina chagatbaroroa aro chagatsranga. Kosakona nadoon sal agre nangchaka, unon me·a nasranggi ja·tani dal·roroaniba dontongna ama. Unode samtangtangni a·arangko cho·bile a·gital baksa gatdona nanga.



Den·kreani (Pruning)

Badiaba wa·arangde (jekai *Bambusa bambos*, *Bambusa balcoa* aro *Dendrocalamus strictus*), ja·pango cheksi bang·a. Uarangko den·kreosa ja·pango chang·kegija baljoka aro unosa wa·ani bimangba sila. Gnigipa aro gittamgipa bilsirangoba bang·gija den·krena nanga, brigipa bilsionan mitamkode den·krekuna nangaia. Me·a nana skang den·kreo nambata aro dal·a chu·siokaonan nangani kri den·krejingna nanga. December aro January-ni gisepo den·kree galna namgipa somoi ong·a.



Rongtalatani (Cleaning)

Dal·drone a·bachengahaon (Gittamgipa bilsio ong·rongbata), wa·a ja·pangko simsakna nangbata. Ja·pang jatchionin a·ningchi pak dal·rikrika, me·arangsa kosakchipakna nagatbaa.

Wa·arangna simsakani komiode cheksirang bang·e nakatgen, aro kam ka·nan jajapilgen. Indake cheksi bang·ode me·a chabaenggiparang gongdolaia aro dal·giminrangnaba ja·pango saina ong·a. dal·baenggiparangde ja·pangoni gongge-gongdangsa dal·baaignok. Indake ong·ahaon name sronge chaataipilnaba neng·beani ong·a. simsakna man·ani somoi badejokode brigijan den·e galaona sokaignok.

Unasa seng·gnangan sigiminrangko den·e gale aro ja·pangni cheksirangko den·kree baljoke rakkiosa sile chabaroroa. Sigimin wa·arang/cheksirang kamna cholnijasan ong·aija ta·rake ran·a aro kamna ta·raka. Ran·ahaode aro ding·gipa somoirangode dotsa dotgipin baksa natgrike wa·alba ong·kate kamgopnaba man·aia.

Ja·pangko rongtalatnade February-March jarangan nama. Ia somoirangode dal·dapgija tol·rorot donga, aro sin·kari badeange dal·chakatanina skangan rongtalatsoode nama.





Bing·wekgipaoniko pikekani (Thinning)

Bing·wekana mitamko pikoba simsake dakna nanga. Agreode salni tongtong nangchakako peng·gipa bijakrangan dongpiljawa. Agreode ja·pangoba ran·kreka, bijakrangba sidoreta.

Ja·pango chang·ketode unoniko mitamko pike galna nanga. Unosa name dal·rorobaa, ja·pangba sila; indake pikeknade ge·aoni gittamgipa bilsionin nanga. Silgijagipa aro dal·na changgijagipa bipangrangko den·e galbo.

Bria ba dal·a chu·sokako u·iani

Wa·a bilsini kri dingtang dingtang kamrangna jakkaltobegipa ong·a. Bilsini kri brianiko ba jakkalna nama namgijako u·ina da·alona kingking mamung scientifically method-rang dongkuja. Unigimin badia bilsio ge·aha uko namen gisik ra·na nanga. Mingsa chol, uan mingbri rongrangko nonge ba rong gnanggipa budurangko kae donnani. Uan nengrae dakna man·gipa aro wa·a badita bilsio ong·aha uko nengrae u·inaba man·a.

Ia mingbri rongrangko jakkale nie nama ine nikaha, aro bang·arangan jakkalenga.

Bilsio 1 gipao (2004): Gitchak

Bilsio 2 gipao (2005): Rimit

Bilsio 3 gipao (2006): Tangsim

Bilsio 4 gipao (2007): Gisim

Bilsio 5 prakon ua apsanrangan ong·taigen.

Bilsini kri wa·ao rongko kana ba nongna nanganiara, mingsa rongkosa ong·aia aro ukon ja·rikna nanga. A·aoni metre 1.5-mang chuao (komioba ka·bakko toe) bilsio prako mingsa rongchi chin dake donna nanga. Bilsisagipaode gipin rongchi chin gitchamni kosako chin dakskae donna nanga. Indake chin ge·prakan wa·ani badita bilsio ong·aha uko mesoka.



Bilsini kri wa'a bipango
chin dake donani



Minggipin dakna nanggniara onggorangchi bisku antio bilsirangko see chin
dake donnani.

Nang·ni chin dakaniara alamala ong·gija indiba an·tangan badita bilsini wa·a
uko tale ui·inasa ong·china.

Sepango gipin bosturangko ge·ani (Intercropping)

Wa·a ge·ani chapchap maiba gipin bosturangko ge·ode, nanga (metre 5-na bate) uarang dal·jawa. Name simsaksonade dongge ba dara cho·penge wa·a ja·tingona chapripaoniko champengna nanggen.

Wa·a ge·daldalmiting bilsirango, cheksirang apalkujamitingode sepangjolo gipinrangkoba a·ba dakna man·aia aro mamung ong·ja.

Mai bostuko ges·enga ukosa simsakna nanga, jean a·salko salrokrokenchim uarangko ge·na nangja, un baksa agre chapchap ge·oba namja.



**Wa·a ge·ani sepango
me·su bagan dakgipa**



Wa·ako geaoni bilsil gningade, dikdiksano man·gipa aro jean saina grimoba sila-namaia, uandakgipa bosturangko ge·na man·aia, jekai haldi, e·ching aro dike dakgiparangko. Uarangni ja·manoba me·rakku, baring belati, beans uarangkoba ge·na man·a.

Uni ja·mangipa bilsirangode sepango gipinrangko ge·oba silroraangjawaha, maina kosakoba wa·ani cheksirang apalbagnok aro ja·dilrangba uandaken. Badiaba dikerangkode ge·na man·kua jerangan, saina grimosa nampilaiachim.

Wa·ani saina apala ong·ode, ja·pangoni 5×5 oni 7×7 metre-mang chel·ao gipin bosturangkoba adita bilsil ru·utaonan a·ba dakna man·a.

Wa·ako Den·ani (Harvesting)

Wa·ako ge·on una raken kam ka·na nanga, unode bilsiantian man·pilaniba donggen. Badita rake kam ka·a wa·ani silaniba indaken ong·gen aro dontonggija me·a nagen aro ukon pale cha·naba man·gen.

Ge·aoni gittangipa bilsioni unoniko palna-botna man·gnok, chu·gimikde bilsibrini ja·manosa briade bria.

Mai miksonganina jakkalgen aro maiko unade wa·ani bilsini krisa ong·a.

- Nok-jam rikna ong·jaode wa·a kambeko nangbrejaode bilsini 2 oni 3 ong·gipa wa·arangkoa jakkalna man·a.
- Dingtang dingtang kamrangna nangbate jakkalnade bilsini 4 ong·gipasa chohnibata.
- Bilsini 5-na batanggipa wa·arangde bilgrina ba sramna a·bachengskjok, uni ja·manode siaignok. Bilsini 5-na batede palna-botna ine donna nangjajok.

Wa·ako den·ani nambatgipa bilsini somoide sin·karini ja·man ja·man wachi ra·gatna skang ong·a. Ia somoiara ritimkarina skang skang jeon ja·gu ba bimikrang natotbaengahachim. Unode a·kin (kin·ma) ba uandakgiparang cha·ani komia.

Wa·chini somoide wa·arang dal·droa, uni somoide den·a nangja. Ia somoio den·ode wa·a damberangna aro me·arangna namjawa, aro uan ja·manchi chabanasigiparangkoba komiatgen.

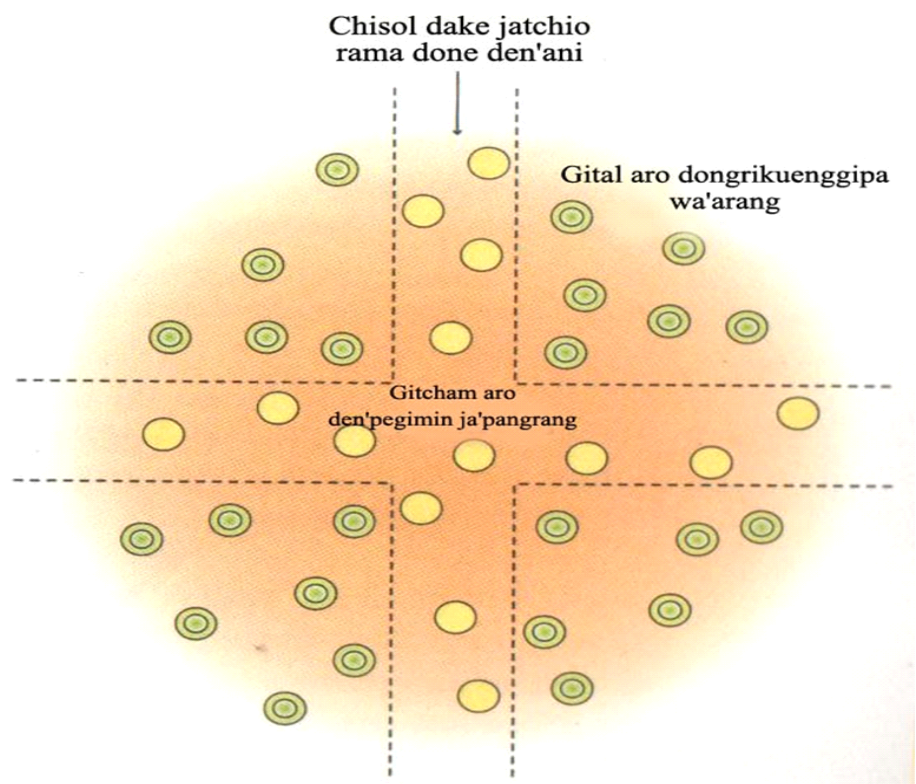
Bing·wekgipa wa·a grimoniko den·ani

Wa·a ja·pango dingtang dingtangni a·sel bing·wekna man·aia, unoni mingsade, bilsisa ba gnina ja·pangko dangrokja ba den·chipjani a·sel. Ian bolgrim-wa·grimgipa biapode ong·chongmota, unasa bilsibrini gisepo chang·prakde pilak dakna nanggirangkon indake dakna nangchongmota. Nang·ni name simsake ge·enggipa wa·ako unigimin, indakgipa a·selo ong·atna nangja.

Bambusa bambos, Bambusa balcoa aro Dendrocalamus strictus, indakgipa wa·ani rokomrangde ja·pang bing·e chabata. Indake ong·on bing·weknaba chol donga. Gimikna bate Bambusa bambos indake bing·e cha·e basakobade bijakrang silgija ro·sil ro·sil dakaia, aro indake ong·on ja·pangko simsakna nangbata. Indake ong·ahaode ja·pangni gisepo bangbang dake ba ‘horse-shoe (gure ja·ani bimango)’ dake den·a nanga.

Dimbrengate Den·ani

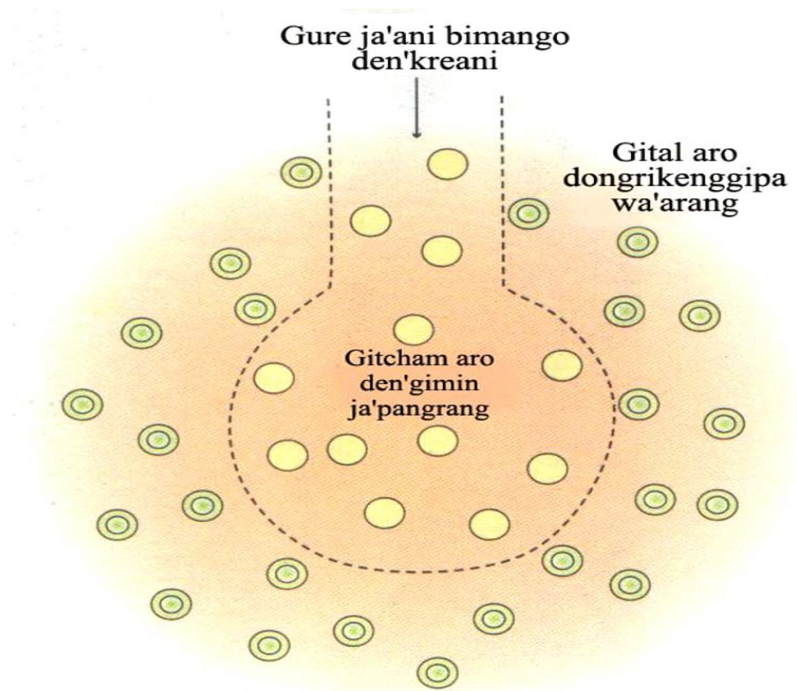
- Wa·a bipangko bakgni dake ma·ekate cholgni dake wa·ako den·ani chol. Rama dake den·on jatchiona re·angna man·a aro napange kamko nengrae ka·na man·a.
- Brigimin wa·arangko unode bakantiniko basee den·a man·a.
- Indake dakanichi bing·tiptipgipa grimoniko namgijagipa ba bilgrigiparangko den·e gale namako donaba nengraa.



Gure ja·a dake den·ani

- Bing·wekgipa wa·a ja·pangko gure ja·ani bimango ba V-ni bimango bangateba simsakna nanga.

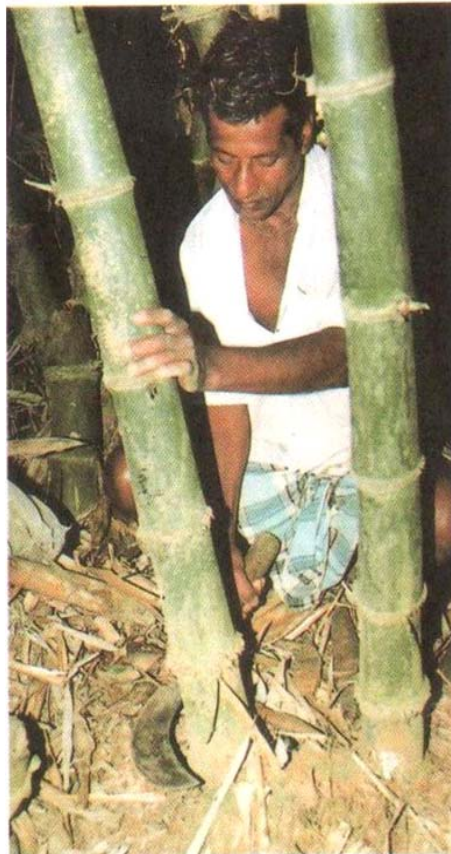
- Bilsisa ong·e dal·drobaenggipa wa·arang baksa watchanggipa biapo brigipa aro namgipa wa·arangko donne gitcam aro ran·gipa wa·arangkode den·e galna nanga.



Indakgipa cholko dakode adita brigimin aro brigija wa·arangkode indin den·e galna nangainaba donga. Indake dakosa nanga gita sng·gen aro me·arangba chabadapgen. Bilsini gisepo simsakanirangko indake dakna nanga.

Simsake wa·ako den·ani

- Skanggipa, gnigipa, gittamgipa aro brigipa bilsirango ong·ronga gitade ratio 3:3:3:1-mang man·a ama. Me·ako man·a gitade una chu·gimik dakna nanggnian dingtang.
- Ja·mangipa bilsirango badita badita na·a brigimin wa·arangko den·aha uni kri nam·gipa me·arang ong·skae wa·a bipang ong·bagen uandakede ong·ja.
- Silgija dal·chiketgipa me·arangkode natotbamitingon ja·pangoniko pike galna nanga.
- Silgija, namgijagipa wa·arangko den·e galna skangan, jakkalna namgipa wa·arangko basee den·chengna nanga.
- Namedake brigiminrangko chin dakon uarangko nengrae aro gong·rake nama namgijako basena man·gen.
- Basegimin wa·arangni ja·pangni cheksirangko den·kree galchengbo unode ja·pangniko basee den·a nengragen.



- Wa·a ja·tin ge·saoni panggni dake chabagipaoniko pangsakode den·telbo, jedakode ja·tinna baljimini komigen.
- Wa·ako den·datgija den·choke den·bo. Indake den·osa mikka chi skongja aro budurang wegatona man·ja.
- Den·gimin wa·a chong·dikni dongspa cheksirangkoba den·roke galna nanga.
- Den·gimin wa·ako dandakramona a·joljol sale ra·nabe. Indake salode bigilo matchrakchraken, bregipani mikrono nangjawa.

Den·giminko dandakani

Den·gimin wa·arangko ge·a sambaon adita somoirangna chimonge donchengronga. Janapenggipa a·selrangni gimin chimonge donchengronga: palram biapo donchengani ba dam namkalako sengani ba kamrangko a·bachengna skang.

Den·ani bakan, chimonge donna nanga dipet, wa·arangko songdoe ba gitilate dona. Gitilate dandake donode ka·mao giparang basakobade brete nosto ong·a. Uni gimin songdoe donnon nambata, maina apale songdoe donnon bal chilgrikna nangani komia. Apsan maioba dan·danate donna nanga aro ran·ba ran·ninga.





Man·ode, donchakram biap RCC (pucca) a·pao ong·na nanga. A·ao donnode a·kin ba uandakgiparang ta·raken maldoninga. Indake man·jaoba plastic ba tarpaulirangko ane, dons kana nanga.

Man·kuode mikka wadapaniko aro sal rakdapaniko champengna maichiba pindape ba salakkimaode dontelna nanga. Mikka chaksimatode sonaba gnang aro ran·ningjawa. Sal chakatskaora agre ran·krekninggen aro sramnaba gnang.

Ge·giminko simsakani chol aro somoirang (Raising a Plantation):

India a·song apalgipa ong·a. Ge·a gamanio nanggipa somoirang aro a·ani gadangrang dingtang dingtang ong·a. Unigimin wa·ako ge·anio maiko dakna nanga uko agan·talatna nengrabea ong·ja. Indiba uarangko minggija, bang·gija niam ba dakna nanggirang donga jekon joton ka·bena nanga.

An·chingni a·songni karirangko niatode mongsonggipa wa·ana wachi karian nambata; dal·roro·silrorona uanon pangchakbata. Ua somoirangon wa·a·bolrangna dal·rorona kam ka·na namgipa somoi ong·a. A·a chijime aro ka·sina ba ding·ako man·e gital me·arang nakatbaa. Nachengaoni jagittamni ja·mano me·arang dal·rorobana a·bachenga. Wachi karini bon·angahaode sin·kari ba ran·gipa somoirang re·baskaa, ua somoirangode wa·arang dal·dapgija tusia gita donga aro kam ka·ani sima ari gitaba ong·a. Ua somoirangoba ja·manchi nangnasigiparangko tarie donsona nanga.

	Badita ja (J)-o matchotna nanga uko mesokani
• A·ako ra·e nama·namja nie niani.	J - 6
• Namgipa a·ako nie, basee arirangko songe donani.	J - 5
• Wa·ani rokomrangko basee aro uko maikai ge·gen uko tarisamsoani.	J - 5
• Wa·a chararangko ge·ram biapo songe donani/wa·aoni man·gipa bosturangko nangnikode bikotani chol.	
• Namgijaoniko champengna bera kadule aro a·a cho·e donani.	J - 3
• A·ako rongtalate gamani.	J - 3
• Nanggipa bosturangko on·ani.	J - 3
• A·kol tu·e cho·ani.	J - 3
• A·kolko cho·e dandake donani.	J - 3
• A·ako tarie, a·kolo samjakrangchi ong·gija bringimin a·salrangko brae donani.	
• A·kolo ge·e, uano aro wilwilao donggipa biaprangona chi jokatani.	J - 2

Wa·a ge·aniko jakdangdike chu·sokatnade bang·a kamrangko ka·na nanga. Wachi kari sokbaon, wa·a ge·ani a·bachengani in era·e (kosako mesokgipa table gita) aro dingtang dingtang obostarang baksa, kamrang aro ja·rikanirangko sulsul suale bak bak dake donna man·a.

GE·ANI JA·MANO DAKNA NANGGNIRANG: SKANGGIPA BILSIO

- *A·sal*: Ge·chengani somoio a·salko on·an baksana, chemical bringimin a·salrangko jakkalode uarangko jasa ba jagni ja·mano on·taina nanga. Ia on·taianiko wachi kari bon·angan baksana jabonga ba jadok ja·rikangkuna nanga. Chemical bringimin a·salko on·ode ramrangipa niamrangko ja·rkna man·a; wa·a pangprako: 150 gr N + 150 gr P + 75gr K. Chemical bringijagipa a·salrang jekai, matchu ki·I ba sogimin bolrangoni ong·katgimin a·salrangko jakkalengode, uarangko bilsio dongimin somoio gita dontonggija on·angna nanga.
- *Chi ruani*: Skanggipa bilsio chi ran·gipa somoirango ge·gimin wa·arangko namen simsakbena nanga. Niam gitade, ge·ani skanggipa jani ja·mano, a·bachengo salgni salgittamni gisepo chi jokatna nanga (ja·mano antiprako). Mikka waani chu·ongode, chi wataniko dontongna man·gen. Wachini ja·manode a·a ran·ode kra gita chi wataniko dakangkuna man·a. Re·baenggipa bilsirangna bate skanggipa bilsio bang·bata aro chu·onga gita chirangko on·na nanga. Bang·bata biaprangon komioba changgni mongsonggipa chi jokataniko dakna nanga – wachi kari bon·ani jagni ba jabrini gisepo.
- *Nanggijagipa sam·bolrangko pike galani*: nanggijagipa sam·bolrangko pike galanian skanggipa bilsio dakna nangchongmotgipa kam ong·a. Indake dakosa sam gipinrangni chapripako champengna aro dal·roro·silrorona man·a. Bang·bata biaprangon chang·gni pike galna nanganiko mesoka – chang·sa, gnigipa ba gittamgipa jao aro chang·gnigipara wachi kari bon·ani jagni ja·mano. Indake dakoba somoini kri sangipinrangni chaaniko nigrike pike galna nanga.
- *A·ako cho·e, a·gate, a·sal on·ani*: Ia kamrangko sin·kario dakna nanga aro uan batbeoba wachini jagittam ja·mano aro jabongani ja·manoba dakangkuna nanga.



Ge·gital wa·chong:
Dendrocalamus hamiltonii

Gnigipa bilsio ge·ram biapko tariani

Gnigipa bilsioa skanggipa bilsio gita dakbaenggipa nanggipa kamrangko ja·rike ka·kuna nanga. Wa·arang dal·droe bijakrang ong·katbae tangsekgilgil nikginok.

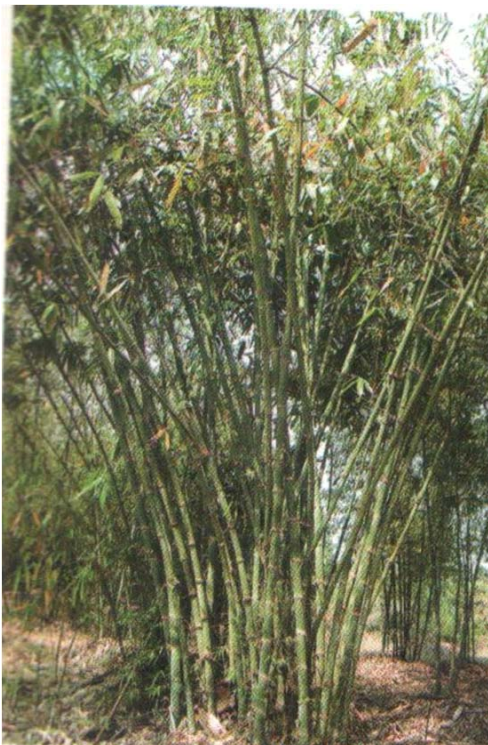
- Skanggipa bilsio sigipa wa·arangni pal kolgapate ge·songtaibo.
- Dake nie changgipa Mandeni aganja skal skanggipa bilsio gitan a·salrangko mai somoio badita on·a ugitan ja·rike on·kuaibo.

- Nangnika gita chi jokatani aro a·arangko cho·bilaniooba apsan dakkuna nanga.
- Bera kadul giminkoba taridapna nanga.

Simsake dal·atani: Gittamgipa bils

Gittamgipa bilsio me·arang changrobagnok indake wa·grim-bolgrim dake nikgnok. Ja·pang dal·baan baksana cheksirang bijimbaaha aro ja·dilrangba su·rikrikangaha. Bils a·bachengo jerangkon wa·ana dakengachim uarangko wa·ani dal·dapaani kri taridape ka·kuna nanggen.

- Wa·chimitingo me·a chabagiparangko nirokjringna nanga. Nom·gipa ringsongrangko galna nanga.
- Wa·ani tusia gita dal·drogija dongmitingo, wa·chongko tarie rongtalatna nanga.
- Nanggijagipa sam-bolrangko pike galanide komignok indiba nangchongmotgipa kamde dongkuaigen.



Wa·a briani somoi:Brigipa aro bongagipa bils

Ia bilsirangode kan·dikgiparangba mangrakbagnok aro changrogiparangara bijime gongdolna a·bachengginok, biap gimikan pangkime nitoginok.

Ja·pangko rongtalatnaba nengraginok, wa·arang maini a·sel namja aro mairangko namdapatna nanggen uko nengrae nikginok. Iarang pilakan somoini kri aro nang·ni jakma ine u·ina man·gen.

Kamrangkode ka·anguani da·oba bon·ja indiba karangni rokomsa dingtang ong·skaginok.

Dal·gimin gitcam aro namgijagipa pangrangko basee den·e galani kamrang, sogimin me·arangko galani aro a·arangko tarianiko dingtangmancha gisiko done kam ka·na nanggen. Ia somoirango bijakrangba bang·en ga·akgen aro uarangkon ge·anio jakkalnaba man·gen. Samgipinrangba komigenok aro wa·arang an·tangtangan mangrakgenok.

Wa·chong gitcam:
Dendrocalamus hamiltonii

Ja·pangoni, me·arangoni ba
cheksirangoniko seng·gnangan ba
brigipa bilsionin ge·taina
chimongsona man·gnok.

Palna-simna (namgni) chimongani: 5, 6, 7 aro ja'' mangipa bilsirango

Bongagipa, dokgipa aro snigipa bilsirangonin man·genok. Wa·arangna bang·bata biaprangko nanggenok aro a·sal aro uandakgiparangko an·tangtangan simsakna changgenok.

A·sal aro chirangko on·na nangkuengon, simsakanide komigenok. Ia bilsirangode pala-simani kamrangsa mongsonggipa ong·skagen.

Bilsi gittam ong·gipa wa·arangkoba seoke chimongna man·gen. Iandakanian ja·mano nang·na man·gni ong·gen.



Me·ana minge wa·ako ge·ani (Cultivating Bamboo for shoot)

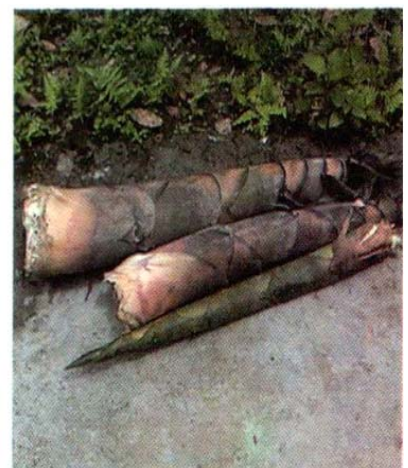


Da·ororo me·ako badinganirang batroroenga. Uarangko antirangon palna man·a aro rokom rokom tarigipa karkanarangnaba palna man·a.

Me·ana minge ge·anio ba me·ana ming wa·a manchana ge·on bang·bata a·salrangko aro nirokaniko nanga, indiba wa·a pangnamangmang minge ge·ode komie nanga. Namgipa a·sal gnanggipa aro saina grigipa biapo ge·na nanga aro chiko chu·onge on·a nanga.

Me·ani ro·a mik 15 oni 18 ona ong·engmitingon den·a nanga; indita ong·aonade adita salrangna sengna nanga. Brigimin me·ade raka aro agre dambeara nom·oba cha·toade ong·skaja. Me·a nahaode salantian nirokna nanga.

Me·arangko den·on dal·gimin wa·arangni gisepe chagipa me·an nambata. Dambe wa·arangni gisepe chagipade be·enna namgniko on·ani komia aro cha·naba cha·tobea ong·ja.





Me·ako Den·ani

Me·ako nirok sandie silatan baksa uko den·anioba pangchaka.

- Wa·arangko simsake ge·ania me·arangko man·a ong·a, aro uan ratio 4:4:2-ni ning·o skanggipa, gnigipa aro gittamgipa bilsirango ong·a.
- Wa·a pangko den·a gitan me·ako den·anioba nangchapgipa ja·pangrangko simsake nichengna nanga jedakode me·arangko nanga gita den·e ra·na man·gen.
- Me·ako, me·a nani somoi bijangchio, bon·angachibarana bate den·a nambata.
- Me·a aro pangko ge·anio ong·rongbewal gitade, namgija ba jo·ong cha·giparangko changale, bilsio 30% -ni gita me·arangko man·a. Me·a mangmangna mingmanchae ge·ode bilsio 50-60%-mang man·skaa.

Me·ako den·on dongenggiparang nosto ong·jana gita simsake den·a nanga. Pringwalni ong·jaode salniachipakan me·a den·a namgipa somoi ong·a. Ia somoirango den·ode me·a ru·utbate chijime donga. Indake dakna ka·mao mesokgiparangko niangna: -

- Me·ako den·a ja·choko a·ako duule kitchengna nanga.
- Me·pako ja·taoni adita nikrangraona watchangesa den·a nanga.
- Sojana gita aterangba rongtalna nanga.
- Me·ako pindapgipa bikaprangko rate galna nangja.
- Me·ako den·mano dongspa ja·pangko a·a pindape donna nanga.

Me·ako den·ani ja·mano man·a dipet chijime aro rongtale donna nanga.

Tripurao Reang jatrang me·ako ta·rake wa·saanganiko rakkirikna bang·bata cha·togipa me·arangko man·a namgipa cholko bikotaha. Skanggipa dakaniara, a·aoni nakatbana amenggipa me·arangko seng·gnang u·ie ra·anian ong·a. Indake dakna salantian simsake nirokna nanga, aro indake dakania ja·arara re·jojoe nianian mingsa ong·a: petchokgipa me·a ku·chotrang ja·pao bu·gen.

Gnigipa dakna nanganiara a·ani me·dikko dambegipa me·ako pingope donanian ong·a. Indake dakon me·a a·palni obostarangoni pindape andalaosa kosakchi ong·gija a·ningo dal·roroskaa aro uan a·ningo dongengkua gita cha·na nama. Me·a changrona man·ja indiba dal·skaa aro basakobade me·dikko wawile chaskaa. Adita salrangni ja·manosa me·dikko ra·gale me·ako den·a.

Agandapani: A·salrangko brine tariani

Brine tarigimin a·salrang namgipa a·salrangoni mingsa ong·a, ge·gipa wa·arangna dal·rorona uan dakchakbea.

Indakgipa a·salko tarianio wa·a aro me·arangko palan baksa mandapani gnang.

Indakgipa a·salko tarianio jabolrangko kan·churian a·sal pil·ata. Kan·churini ki·io ramramari a·ana bate chang·bonga nitrogen, chang·sni phosphorus, chang·chisa potash, chang·sni calcium aro magnesium aro chang·chet jakkaltogipa bacteria jo·ongrang gnang.

A·salko brine tariani

Matchu ki·i, galgimin me·su·samjakrang aro ga·akgimin wa·a bijakrangkon brine a·sal tarina man·a. Hacter 1 wa·a baganoni ton 6-8-ona bilsiantio wa·a bijakrang ga·aka.

- Matchu ki·gtal aro galgimin me·su·samjakrangko chimongbo. Uarangko sojrongchina adita somoirangna danne donbo. Matchu ki·gitalko sal 8-10-ona aro me·su·samjakrangko sal 15-ona danne donbo.
- Danne dongiparang sojrongani ja·mano matchu ki·iko (ba gobar gas·na chipgimin matchu ki·i), me·su·samjak aro wa·a bijakrang baksa brinbo, jedakode uarang wa·arangna a·sal ong·gen. Me·su·samjakrangni ata gita matchu ki·iko brinbo.
- Antioniko ong·jaode badinggiparagoniko jakkalgipa kan·churiko brebo. Kan·churi kg prako mang 670-700 gnang.

- Matchu ki·i aro me·su·samjak bringiminko a·aon danne donbo.
- Salsanade indake bringiminko ka·sinchina mamung dakgija donbo. Kan·churirang ding·aode dongna man·ja.
- Putsa prako kan·churi gram 350ko donatbo.
- Teng·aniko champengna aro kan·churirangko dongtoatna me·gap ong·jaode wa·a bijakrangchi pindape donbo.
- 50% chijime rakkina gita ding·kario sal 3-4 aro sin·kario sal 7-8 watchange chiko rujimjimbo.
- Ma·ketjachina gita sal 10 prako cho·Bilbo. Chi rujimjimani a·sel ma·keta unasa cho·bilna nanga.
- Jensalo brine dongipa, chikgipa a·mangni rong pil·a aro ginchi dakaha unon ua a·salko tariani kam matchotaha aro jakkalna namaha.
- Bon·kame pindape dongipa me·gap ba wa·a bijakrangko ra·galbo.
- Ia a·salko tarianio sin·a·ding·ani aro wilwilao donggiparangan bakko ra·a.
- Sin·kariode sal 105-120 nanga.
- Ding·kariode sal 80-90 nanga.
- Mikka waani somoiode sal 70-80 nanga.

INDAKGIPA A·SALKO TARIANI MODEL

Riting dake ge·gipa wa·arangni gisepon a·salna brine tarina man·a. Indake a·salko tarinade wa·akoan metre 5×5 apsan watchange, ki·tik gittam dakate ge·na nanga. A·sal tarianiko metre 1 mang apale, aro cm 20-30 chue tarina nanga. Bakroanide biap badita donga unosa pangchaken, ua bakroaniara wa·ako riting dake ge·gipani bakroanio pangchaken. Wa·a ge·gipa a·ani bak 10-ni bak 1-kode a·sal tarina jakkalna man·gen. Dongge ba dara tarigipao a·salna tarigipa nangchapama nangchapja uko nibo.

A·salna brinna nanggniara put 1 prako kg/m³. 636 nanga. Brinna nanggniara a·mang aro matchu ki·iko bak 70 aro wa·a bijak aro me·su·samjakrangko bak 30. Bilsa 1-o sal 100 prak, una somoi nanga jean 3.5 man·skaani gnang. Tarigimin a·salni damara kgprako Rs. 2.

A·bachenge dakgni

- Putprakna nanggiparangko bringiminoni matchu/matma ki·I bak 30 aro me·su·samjak bak 70 = $18\text{kg} = 635.8 \text{ kg/m}^3$
- A·salko tariani bostu = 30% man·ani
- Somoi = sin·kario sal 120 aro ding·kario sal 60. Average sal 100 nanga.
- Bilsiprako nanga somoi = 3.5
- A·salni dam = Rs. 2/kg

Hisap rakkiani

- A·bani apala = 10, 000 sq metres (1 heceter)
- A·sal tarina biap nanggipa = 1, 000 sq metres
- A·ani bang·ani = 10, 760 cu, ft, 305m³
- Chu·gimik nanggipa bostu = 1, 93, 680 kg.
- Chang·prako man·ani = 58, 104 kg (30% tariaoni)
- Bilsiprako man·ani = 2, 03, 364 kg.; 203, 364 m. tons (bilsiprak chang 3.5) = Rs. 4, 06, 728 @ Rs. 2/kg.