



Aanga tabeua ni kaitarai kanganga



KATEBENAKOAN TAIAN KUKUNE AIKA A KAKAWAKI AIKA A REKEREKE MA TE BETEBEKE

Man ana Riboti aika a Irengan Botakin te Aonnaba (United Nations) man **Te Rabwata ae e kaainaki irouia ana Botaki ni Mwakuri te Tautaeka aika a kakaokoro ibukin Bibitakin Kanoan Boong – Intergovernmental Panel on Climate Change (IPCC)**. Aio te kabanea n riboti man ana Kaonoua n Raun ni Kakae (AR6) IPCC, are e ikoti iai ni kabane ana riboti IPCC i nanon itiu te ririki.

Tamaroan ae e baiti te mwakuri i aon kanoan boong n te aonnaba bwa e na karekea totokoan urubwai n taai aika a na roko ao ni kauarerekea aron bitakin tein te maiu



Iai aika a kona n karaoaki, a omwaka ao a boraai aika a kona ni karaoaki ngkai ibukin bitakin tein te maiu ao kabebetea kanganga



Baitin te mwane ni buoka ao karokoan rabakau aika a boou (technology) n Aban te Betebeke ke Pacific Island Countries & Territories a rang kainanoaki ibukin karikirakean ke kabirimwakan te mwakuri



Moantaiakinan mwakuri i aon bitakin tein te maiu ao kabebetea kanganga a na rang ibuobuoki n te tai ae e tawe ao ae e maan, ni kona ni kauarerekei kanganga man kanoan boong nakoia aomata ao taian otawanin



Omwakan aanga i aon bitakin tein te maiu e na tabe ni kekerikaki man rikiraken te kabueue



Kauarerekean te kabueue nakon 1.5°C ao ni kee iaan 2°C e bon kainanoa rikiraken kainanoan te mwakuri korakora ni kabuta te aonnaba ibukin kabebetea kanganga i marenan te ririki 2030-2050

Aanga tabeua aika a kakawaki ni kaitarai kanganga bon:



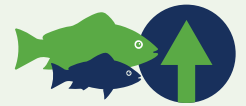
Karekean bwaai ni mwakuri aika a kona ni moantaai ni kaoti kanikina, ao te mwane ni kabomwi (insurance) ibukin maiuia aomata aika a rang kakai rotaki n taian kanganga man kanoan boong



Bitakin aron tein te mwakuri n te tabo ni maniman (farming) ao babairean ma tararuan te ran iai



Kamanoan, kawakinan ao kauarerekean te bareka (pollution) n taian marawa



Manga kamwaitaia ika



Karikirakean te tararua, te maeka ao babairen raoti te mwaing nakon te tabo teuana ni kaitara keraken iabutin tari



Karaoakin kateitei ma ana bwai te botanaomata bwa a na kona ni kaitarai kanganga (resilient)

Te itera ni baa aio e rairaki man te taetae n imatang. E a tia n karaoaki raoti te mwakuri ibukin rairakina bwa ena kaineti raoti ma kanoan te ribooti are kaotinakoaki man te IPCC ke te rabwata are tabena kaotinakoan kukune iaon bibitakin kanoan boong. Ngkana arona bwa iai kanoan te ribooti ae eaki nang matata reitaki nakoira n: iceds@anu.edu.au ke pccc@sprep.org ibukin bwainin rongorongona.



Aanga tabeua ni kaitarai kanganga



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Man ana Riboti aika a Irengan Botakin te Aonnaba (United Nations) man **Te Rabwata ae e kaainaki irouia ana Botaki ni Mwakuri te Tautaeka aika a kakaokoro ibukin Bibitakin Kanoan Boong – Intergovernmental Panel on Climate Change (IPCC)**. Aio te kabanea n riboti man ana Kaonoua n Raun ni Kakae (AR6) IPCC, are e ikoti iai ni kabane ana riboti IPCC i nanon itiu te ririki.

Moantaiakinan mwakuri i aon bitakin tein te maiu ao kabebetea kanganga a na rang ibuobuoki n te tai ae e tawe ao ae e maan, ao e na kauarerekei naba kanganga man kanoan boong nakoia aomata ao te otabwanin.^{***1} Mwakuri i aon bitakin tein te maiu e na bongana nakoia kain te Betebeke rinanon kauarerekean te rotaki ma e aki kona n totokoa te maunanako ao te urubwai.² Bonganan te mwakuri ae e tawe ibukin kanoan te bong n te aonnaba e rekereke ma totokoan urubwai n taai aika a na roko ao ni kauarerekea te kabanemwane i aon bitakin tein te maiu.³ Iai taian mwakuri ibukin bitakin tein te maiu ao kabebetea kanganga ae a kona ni mwakuriaki ngkai, a materaloi, a omwaka ao a boraioi.⁴

TAABO MA AROIA NI KAITARAI KANGANGA

Te bitaki ae e tawe, e waekoa ao e rababa nakon taabo nako ma bwaai ni mwakuri a bane ni kakawaki ao ni kainanoaki ibukin karaolan bitakin tein te maiu ao kakorokoran kabebetea kanganga.⁵

TAIAN MARAWA⁶

A kona ni boutokaki raoi marin ma ana otabwanin te marawa man kamanoakia, manga kamaiuakia, tararuakin te marawa n aron kauarerekean te kabarekareka ao baika a na rotaki iai.^{**} Kamanoan ao manga kamaiuan mataniwin te aba n arana ae te "blue carbon" ecosystems (taian tongo, uteute aika a riki i mataniwin taabo aika a aomwaimwai (tidal marshes) ao ai uteuten tari) e kona ni kerake iai te CO₂ ma aron kawakinana* ao a kona ni kamanoa kanakin mataniwin te aba ao te ieka.^{***7}

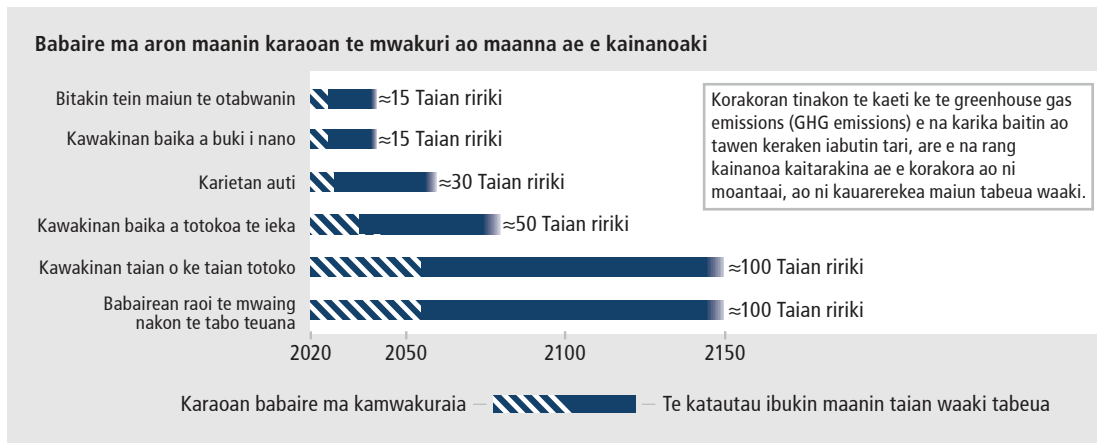
Manga moan kamaiuan ke wakanan te aro n akawa aika a tia n aki kabonganaki raoi ma imwaina a kona n kauarerekea ana urubwai bibitakin kanoan boong i aon te akawa* ao ni boutoka kawakinan te amwarake, maiuia aroka ma maan n nneia ni maeka, marurungia ao aron maiuia aomata.^{**}

KERAKEN IABUTIN TARI

Keraken iabutin tari ngaia teuana te kanganga ni bitakin tein te maiu kioina kai e kainanoa te bibitaki ae e karaurau ao rikiraken waekoaan ao korakoran baika a kona n riki man korakoran te iabuti.^{**8} Kaitarakin keraken iabutin tari e irekerekere ma kamanoana, te maeka, ao babairean raoi te mwaing nakon te tabo teuana.^{**} A na mwakuri raoi aanga aikai ngkana a ikotaki ni kabane, a baireaki raoi ni moantaai imwain wakinaia, ao a kaineti ma te katei ao te aroaro ae e waboboaki man aia ikarekebai ni mwakuri aomata ke kain te komuniti (community) ni kabane.^{**}

E kona ni manga kamemerei iango ni kakatauraoi keraken iabutin tari. N aron, manga kamaiuan taabo aika a aomwaimwai e na tamaroa ibukin te otabwanin ao ni kauarerekea aron mwakurian totokoan te ieka*, ma e na manga memere korakorana n rakan keraken iabutin tari ae riaon 0.5–1 cm n te ririki.⁹

E kainanoaki te babaire ae e na teimaan ao man kona ni mwakuriaki nanona ibukin kaitaran keraken iabutin tari



E anaki man te banna (Figure 3.4, kurubu b) — Kaitaran keraken iabutin taari e bon kainanoa te babaire raoi i nanon te tai ae e maan.

E kainanoaki te mwakuri ae e moantaai ni kaitara keraken iabutin tari ao e na kauarerekea naba maanin taian waaki tabeua. Ngkai e a rang korakora rietatan ma keraken iabutin tari ae e na riaon te ririki 2050, taian bitaki aika a tia n baireaki n tabeua taabo a kona n riaon aanga ake a katauaki ngkai ibukin bitakin tein te maiu ao ibukin tabeua aban te Betebeke ke te PICTs ao aaba aika a rinano mataniwia bwa a kona n rotaki ao ni maunanako.

E anaki man ana riboti Te Rabwata ae e kainaki man ana Botaki ni Mwakuri te Tautaeka aika a kakaokoro ibukin Bibitakin Kanoan Boong – Intergovernmental Panel on Climate Change (IPCC) WGII Banna 8.18.

1 Summary for Policymakers (SPM) C.2.1

2 Longer Report Section 4.3

3 SPMC.2

4 SPMC.3

5 SPMC.3

6 SPMC.3.6

7 SPMB6.4

8 Section 3.2

9 Section 3.2

* = Te konabwai ae e bon tau

** = Te konabwai ae e korakora

*** = Te konabwai ae e rang korakora



BABAIREAN AO TARARUAKIN TAIAN KANGANGA¹⁰

Babaire ma tararua ibukin kauarerekean kanganga, bwaai ni mwakuri aika a kona ni moantaai ni kaoti kanikina, taabo ni mwakuri aika a tabe ma kanoan boong ao tibwakin ma ibuobuokan aanga n totokoi kanganga boni ngaia te kawai ae e na nakoraai ngkana a bane ni kabonganaki n te tai ae ti teuana.** Ikotakin kainibaire n aron te moantaai n atai kanikina, te mwane ni kabomwi ibukin maiuia aomata man kanganga ni kanoan boong ao bitaki ibukin kamanoaia aomata a na kauarerekea te kakai rotaki n aroia aomata.** A riai n taraki raai kainibaire aikai bwa a na kona n reke ao ni mwakuri irouia koraki ake a rang kakai rotaki riki.**

E kona ni kaurerekeaki te ieka man kateimatoan te buakonikai ae e kabatetei, manga kamaiuan taabo aika a aomwaimwai ao taian karanga, ao ai babaire i aon kabongan te aba n aron ae e na akea te kateitei i aon mwakoron aaba tabeua.* bwaai ni mwakuri aika a kona ni moantaai ni kaoti kanikina a kona n uaia ni kabonganaki ma tabeua taian totoko n aron te o ke te bono bwa e aonga n teimatoa te maiu.**¹¹

Te kanganga ni mwaingia aomata nakon te tabo teuana n tiaki oin nanaoia ibukin bibitakin kanoan boong e na kona ni kauarerekeaki rinanin te uaia ni waaki, konabwaia aban tinaniku ni katamaroai iango ni karikirake i aon bitakin tein te maiu ao teimatoan te rikirake.** Man kamwakuran kainibaire aikai ao e kona ni kangaraoi ao ni karekei aanga tabeua ibukin te maiu, te mwaing nakon te tabo teuana ae e baireaki raai arona n te aro are aomata aika a kakai rotaki a na kona ni bita tein maiuia ni kona ni kaitara bibitakin kanoan boong.**¹²

TE ABA AO KARIKIRAKEAN MWAITIN AMWARAKE¹³

E na rotaki te ua man bibitakin kanoan boong n taai aika a na roko.¹⁴ Karaon te ununiki ae e tawe ibukin bitakin tein te maiu e na kona n irekereke ma: kanakoroaon te ua, aroka n aekaa nako ma maan aika a bane ni mena n te tabo ae ti teuana (agroforestry), bitakin tein maiuia aomata ao kabatian aekakin ke rinanin ua aika a kakaokoro.** Babairean te ran n taabo n ununiki, kawakinan te ran, kawakinan maiuraoin te tano ibukin kaubwain te aba, ao maiuraoia aomata, aroka ma maan n aia enwaromenta.**¹⁵ E ngae n anne, ao te ran are e rang korakora kainanoakina ibukin bitakin tein te maiu e na tabe ni kerikaki man rikiraken te kabuebue.**¹⁶

Tabeua aanga ni kabebetei kanganga n aron te Ununiki, Tararuan kain te Buakonikai ao Tabeua aron Kabongan te ABA ke te Agriculture, Forestry and Other Land Use (AFOLU) a kona ni kakorakora uareken

tinakon te kaeti ike a na kabwaia iai aika a maiu i aonteaba n aroia aomata, aroka ma maan n nnea ni maeka, kawakinan te amwarake, mwaitin te kai ao tabeua aika a kona n reke man te otabwanin ngkana a kateimatoaki mwakuri n tararua. N aron: katokakin te koroaroka n te buakonikai, kawakinan taian otabwanin ae e korakora te kaeti ae te carbon iai (high-carbon ecosystems), ao ai babairean ao tararuan raai te buakonikai ma mataniwin aaba aika a aomwaimwai. Unikakin aaba aika akea te maiu i aoi ma imwaina e kona ni manga ibita aron aaba akanne are a taneia iai ao ni kona ni manga karekei kanganga nakon aika a maiu i aonteaba n aroia aomata, aroka ma maan n nnea ni maeka, aroia aomata ni maiu, ao inaomataia kain te aba, riki ngkana e a rotaki aron te bwaibwai n te aba.**¹⁷

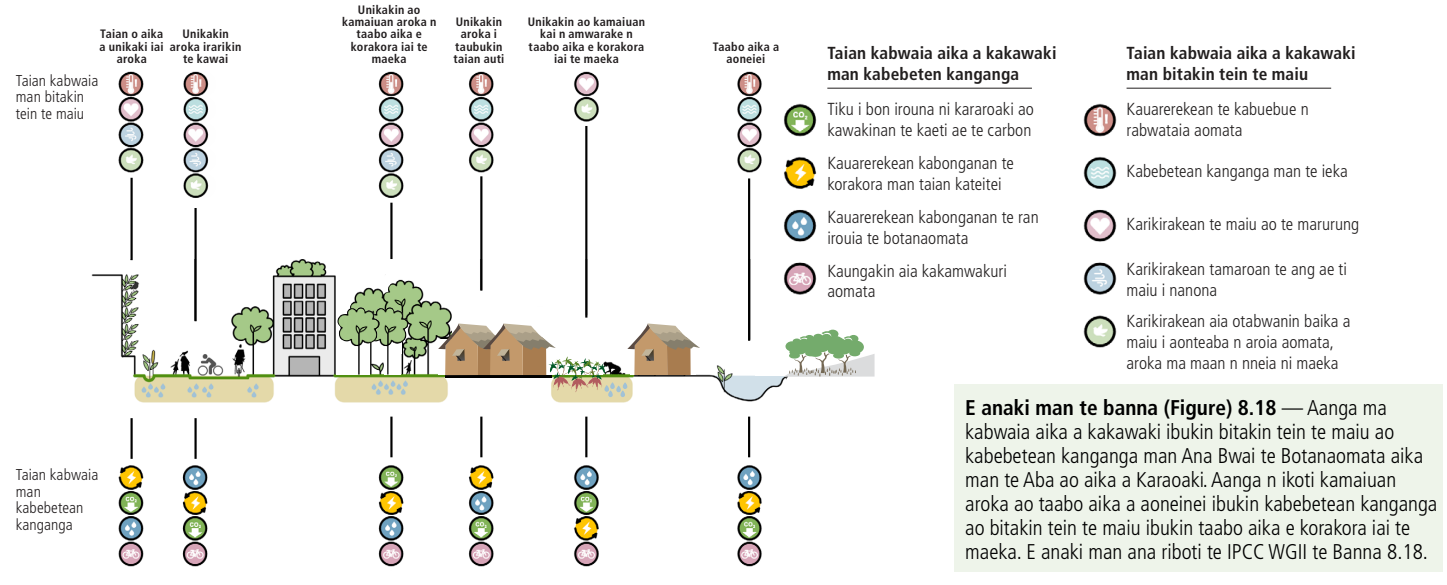
TAIAN KATEITEI MA ANA BWAI TE BOTANAOMATA AO TAABO NI MAEKA¹⁸

A na kai rotaki aika a rang kakawaki ibukin tararuan taian kateitei ma ana bwai te botanaomata n ikotaki ma tararuan itiakin te ran ibukin mauria te botanaomata, te ran, te maiu ao te marurung, baao ni mwamwananga, aanga n itoman ao n reitaki ao ai te korakora (energy) ngkana a aki karauaki raai n baireaki aroia ibukin bibitakin kanoan boong.**

Kaungakin te maeka n taabo ke kaawa aika a tia ni karikirakeaki aroia bon ngaia teuana te anga ni karikirakea te korakora ni kaitarai kanoan boong nakon taai aika a na roko.** Ana bwai te botanaomata¹⁹ n aron, unikakin ma kamaiuan aroka n taabo aika e korakora iai te maeka, unikakin aroka i taubukin taian auti, ao manga kamaiuan taian karanga a kona n riki aikai bwa kaitaran bibitakin kanoan boong ao kauarerekean te kanganga man bwaai aika a kona n riki n aron te kabuebue ae e korakora ao te ieka, ao e kona naba n buoka te maiu ao te marurung, ao ai aroia aomata ni maiu.* Ikotakin ana bwai te botanaomata aika man te aba ao aika a karaoaki²⁰ a kona ni kauarerekean aron bitakin tein te maiu ao n ibuobuoki n tararuan te ieka, tararuan itiakin te ran ibukin mauria te botanaomata, kawakinan ao tararuan te ran, totokoan ingunakon aaba ao kawakinan mataniwin te aba.*

E kona naba n kerikaki te kakai rotaki man bibitakin kanoan boong riki ibukia aban te Betebeke ke te Pacific Island Countries and Territories (PICTs) ngkana e karababaki riki te korakora (energy) are a reke man te ang, man te riringa ao are a kona naba n reke man korakoran te ran.²¹ E ngae n anne ao kabonganakin aion n te aono aei a na bae n waeremwe ibukin uareken ke karakon te mwane, ma rabakau aika a boou (technology) ibukin kamwakurana.

Taian kabwaia aika a kakawaki man bitakin tein te maiu ao kabebetean kanganga man Ana Bwai te Botanaomata aika man te ABA ao aika a Karaoaki



E anaki man te banna (Figure) 8.18 — Aanga ma kabwaia aika a kakawaki ibukin bitakin tein te maiu ao kabebetean kanganga man Ana Bwai te Botanaomata aika man te ABA ao aika a Karaoaki. Aanga n ikoti kamaiuan aroka ao taabo aika a aoneinei ibukin kabebetean kanganga ao bitakin tein te maiu ibukin taabo aika e korakora iai te maeka. E anaki man ana riboti te IPCC WGII te Banna 8.18.

10 SPMC.6.3; Section 4.5.6
 11 SPMA.3.2
 12 Section 4.5.6
 13 SPMC.3.5
 14 SPMA.2.4
 15 SPMA.3.2
 16 SPMB.4.1
 17 SPMB.6.4
 18 SPMC.3.4
 19 Also referred to as 'green' infrastructure
 20 Also referred to as 'grey' infrastructure
 21 SPMC.3.2
 * = Te konabwai ae e bon tau
 ** = Te konabwai ae e korakora
 *** = Te konabwai ae e rang korakora



TE MAIU MA TE MARURUNG AO AMWARAKE AIKA A BONGANA NAKON TE RABWATA²²

Te kawai ae e rang kakawaki ibukin te kona ni kaitarai kanganga man kanoan boong n te tabo ni kuakua bon te kona ni karekea te buoka man te tabo ni kuakua ni kabuta te aonaba.**

E na tamaroa aron maiuia ma marurungia aomata ngkana e ikotaki te marurung n te amwarake, taian kateitei ma ana bwai te botanaomata ao kainibaire i aon te ran.** Kainibaire i aon maiuia ma marurungia aomata ni katamaroai amwarake aika a bongana nakon te rabwata, n aron te kabomwi n te mwane ao taian mwakuri ni katanoata, a kona ni kakorakora iangoan te amwamwarake, a na kauarerekea bakataean te amwarake, e na uarereke kainanoan aron te tararua n te tabo ni kuakua ao e na kakerikaka tinakon te GHG.**

Aanga tabeua ibukin bitakin tein te maiu aika a na baiti ibukin kawakina maiuia ma marurungia aomata a irekereke ma aikai: Taian Babaire ma Mwakuri ibukin te maiu ma te marurung ae a na kona ni moantaai ni kaoti kanikina ao taian waaki ni kaitara korakoran te kabuebue ma taian aoraki **, karekean ke reken te ran ae e itiaki irouia aomata, ao tararuan itiakin te ran ibukin mauria te botanaomata man te ieka ao ai angibuaka aika a korakora n riki.

KANGANGA NI BITAKIN TEIN TE MAIU

Mwakurin raoi²³ aanga ni bitakin tein te maiu e na kerikaki ngkana e tabe n rikirake te kabuebue.** Ngkana e a riaoan 1.5°C te kabuebue ao angiiin aanga ni bitakin tein te maiu a na roko ni kabanean korakoraia ma ieta ao a nang tabe ni memere mwakuria raoi.** N aron ae, ngkana e a riaoan 1.5°C te kabuebue, karakon te ran ae e mam e na kona ni karika te kanganga ni bitakin tein te maiu ibukia aaba aika a uarereke. Karakon aanga ni bitakin tein te maiu e na kona n kakorakora riki te maunanako ao te urubwai, riki nakoia aomata aika a maiu ni kainano ao a kakai rotaki.

Tabeua aanga ni bitakin tein te maiu a tia n roko ni korakoraia ma ieta²⁴. Tenan mweenga i mataniwin te aba n aaba aika a rinano ao tabeman taan maniman a tia naba ni kaitibo ma te kanganga aio. Tabeua rakai ake a maiu n te ran ae aabue, aaba aika a aomwaimwai ao kain te buakohikai a tia naba n roko ni korakoraia ma ieta ike e a bon toki ke ai bon akea riki aanga ni bita tein te maiu ae a tauraoi.**²⁵ ma imwain naba reken aio, ao bitakin tein te maiu e bon aki naba totokoa te maunanako ma te urubwai.**²⁶

* = Te konabwai ae e bon tau
** = Te konabwai ae e korakora
*** = Te konabwai ae e rang korakora

Aanga ni bitakin tein te maiu a kona n hard ke soft limits. A reke soft limits ngkana akea aanga ni bitakin tein te maiu aika a tauraoi ngkai ma a na tauraoi n taai aika a na roko. Soft limits a kona n reke ngkana e aki tau te mwane, e aki tau aron te tautaeka n tararua, ke e memere te wanawana ma te atatai. Hard limits a reke ngkana e a bon toki ao ai akea riki aanga ni bita tein te maiu ae a tauraoi ni kauarerekei kanganga.

A nang boboto angiiin mwakuri ni bitakin tein te maiu i aon kauarerekean te kanganga n te tai ae e uarereke ae e a manga kona ni kakerikaka angan karaean bitakin tein te maiu man kamwaingakin waaki ni mwakuri man kawai aika a aki teimatoa ao a aki kainanoaki (transformational adaptation).²⁷ Te mwaing ni bitakin tein te maiu ae e karaoaki teutana imwin teutana (incremental adaptation) nakon bitakin tein te maiu man kamwaingakin waaki ni mwakuri aika a aki teimatoa ao a aki kainanoaki a kona n ibuobuoki n taonnakoi soft limits ke akean aanga ni bitakin tein te maiu aika a tauraoi ngkai ma a na tauraoi n taai aika a na roko.²⁸ Mwakuri aika a boboto bon ti i aon mwakoro n aba ma aia kanganga ao bon ti ibukin te tai ae e uarereke a kona ni karika te rotaki²⁹ nakon te tabo anne i nanon te tai ae e maan. N aron ae, a kona ni kauarereke rotakin te aba taian bono n te tai ae e uarereke, ma a kona naba ni kakerakea te kanganga nakon kanoan boong n te tai ae e maan.³⁰ E kona n totokoaki aio ni kakaean riki aanga ma kawai aika a na kona ni mwakuri ibukin te tai ae e maan ao babairean raoi waaki ma mwakuri aika a na kona n roti taabo aika a bati ao ni kona ni bibitaki ke ni karin riki iango ma babaire.³¹ Aanga n aron babaire ma tararua ibukin kauarerekean kanganga, bwaai ni mwakuri aika a kona ni moantaai ni kaoti kanikina, taabo ni mwakuri aika a tabe ma kanoan boong, baika a na kona n ibuobuoki n tain te kanganga aika a na rooti itera ma taabo aika a kakaokoro.**³² E ngae n anne, ao e tuai n ataki raoi bwa mwakurira raoi bitakin tein te maiu ni kaitarai kanganga man kanoan boong ibukin te tai ae e maan.**

Kanganga aika a totokoa kanakoroan wakinan aanga ibukin bitakin tein te maiu n taabo aika a kakai rotaki, taian aono ma kurubu n aomata nako n ikotaki ma uarereken te mwane (ibukin naba taian kamatebwai ke kaka), aki taun aia reitaki itera aika tiaki rabwatan te tautaeka (private sector) ao rabwata ibukia te botanaomata (civic sector), e birimere ao e uarereke aron karekean te rabakau ae e boou i aon bitakin tein te maiu ao e karako te kaka ae e a tia ni karaoaki i aona.³³ N te ririki 2018**, ao e teimatoa n aki tau te mwane ae e kainanoaki ibukin kabebetean kanganga ao bitakin tein te maiu n aaba aika a rikirake**, e bwaka i aan te takete ke te kouru i aan te UNFCCC ao te Paris Agreement ibukin aaba aika a rikirake ni kamwakura USD100 tooki (billion) ni katoa ririki imwain 2020.³⁴**

Aki taun te mwane, memeren taian kainibaire ma kaunganano nakon karekean te mwane boni ngaia boton te marena ni wakinan bitakin tein te maiu ma kabebetean kanganga.³⁵ E rang kainanoaki te mwane ni buoka ae e tawe rekena ni buokia aaba aika a rikirake n ikotaki ma aban te Betebeke ke PICTs ibukin kabiran te mwakuri.**³⁶ Rikiraken te mwane ni buoka ibukia te botanaomata ibukin bitakin tein te maiu ao kabebetean kanganga ibukin aban te Betebeke e na bon bongana ao ni materaoi ao ni kona ni manga karekea te kabwain n aron karekean te korakora ni karaoi mwakuri (basic energy).** Te mwane ibukin bitaki tein te maiu ae e reke man te rabwata ae tiaki rabwatan te tautaeka, e kona ni kaungaki irouia te botanaomata ni kaoti baika a koaua ao n ataki n aron babaire, kabanemwane ao taian totoko nakon te karekemwane, n aron ae, rinanon aia ikarekebai te botanaomata ma rabwata aika tiaki rabwatan te tautaeka (public-private partnerships).****

Rongorongo riki i aon taabo aika a onoti tararuakia a kona n reke n Rongorongo aika a Koaua i aon Taian Kanganga, Bitakin tein te Maiu ao te Kakai Rotaki (Factsheets on Impacts, Adaptation & Vulnerability n: <https://iceds.anu.edu.au/public-policy-outreach/ipcc-pacific/pacific-factsheets>

22 SPMC.3.7
23 Effectiveness refers to the extent to which an adaptation option is anticipated or observed to reduce climate-related risk (Footnote #42 SPM WGII)
24 SPMA.3
25 SPMA3.5
26 SPMB.4.2
27 SPMA3.3; Transformational adaptation changes the fundamental attributes of a social-ecological system in anticipation of climate change and its impacts
28 Section 3.2
29 SPMB.4.3; Maladaptation is any action that may lead to increased risk of adverse climate-related outcomes, including via increased GHG emissions, increased vulnerability to climate change, or diminished welfare (SYR AR5 — Annex I)
30 SPMB.4.3
31 SPMB.4.3
32 SPMC.3.8
33 SPMA3.5; Section 2.3.2
34 SPMA.4.5
35 SPMC.7
36 Section 3.4.2

