



Modul 6 - Lena Wokbuk

Riniwabol Eneji Projek Faenansol Manejmen

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Kampani we i givim mane from:



Long patnasip wetem:







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“Riniwabol Eneji Projek Faenansol Manejmen” trening modul hemi wan introdaksen long besik riniwabol eneji faenans proses.

Taem yu komplitim kos ya, bambae yu ajivim ol lening aotkam we i stap daon:

- Aedentifae RE projek we i stap finis o potensol blong niu RE Projek long komuniti.
- Demonstretem besik level andastanding blong faenansol manejmen long riniwabol eneji projek.
- Aedentifae ol opotuniti blong akses long mane blong RE komuniti projek.
- Demonstretem besik save long Revenu mo ol ekspens blong riniwabol eneji projek.
- Andastanem olsem wanem blong enkej wetem releven gavman, ol dona, mo developmen patna blong asistens long riniwabol eneji projek.

TEBOL 1: Lesen Plan

Japta	Lesen Taeb
1. Introdaksen	Teory mo aktiviti 1
2. Wanem hemi Riniwabol Eneji Faenans	Teori
	Aktiviti 2
	Aktiviti 3
3. Fanding Opotuniti	Teori
4. Revenu mo Ekspens blong Riniwabol Eneji Projek	Teori
	Aktiviti 4
5. Enkejem ol Dona blong Fand	Teori
	Aktiviti 5

Lena wokbuk ya (LW) i kamaot long koresponding Trena Gaed (TG). Ol Kontent long LW ya oli mekem i kam isi mo samaraesem, wetem fokus long ol daekram, pija mo ol koresponding aktiviti we i save alaoem man we i lanem blong stap enkej wetem trena long taem blong trening. Sipos yu

wantem kasem moa infomesen long eni seksen, plis lukluk i go long koresponding TG.

Kava pija sos: <https://www.maxpixel.net/Home-Coin-Investment-Money-Finance-Business-Bank-2724238>.

Disklema: Global Green Growth Institute i no save mekem eni jenis/waranti, we maet long ekpres o implae, o asum long eni likol laeabilti o responsibiliti blong akuresi, komplit, o eni namba 3 pati we i yusum, o risal blong eni kaen yus, blong infomesen, aparatus, prodak, o proses disklos long ol infomesen we i kontenem long plesia o ripresentem se yus blong hem bambae hemi no go ova long praevet raet blong hem wan.

GLOSERI

AC- Alteneting Karent (Current), hemi wan taeb blong elektrik we ol bigfala jenereta oli produsum blong bigfala devaes olsem TV o wasing masin.

Bukkiping- Kipim wan rikod blong cash we i kam insaed mo i go aotsaed blong wan bisnis.

Jaj- Blong konektem ol waea i go long batri blong mekem voltej i go antap. Oltaem oli konektem long sola panel blong jaj.

Jaj Kontrola- wan samting we hemi kontrolem jaj blong batri mo hemi stopem blong no ova jaj.

Karent – Hemi wanem we i flo long ol waea blong givim yumi paoa tugeta wetem Voltej.

DC- Daerek Karent, hemi taeb blong elektrik we sola panel i produsum. DC paoa i save ranem ol laet mo smol devaes daerek.

Grant- Mane we oli givim from wan projek, be ino blong givim bak.

Inveta- wan samting we hemi jenisim dc elektrik i go long ac elektrik.

Lod- Eni samting we i tekem paoa long batri o sola panel.

Maet hemi laet, fan o frij. Eni samting we i yusum elektrik hemi wan lod.

Loan- Mane we oli givim blong yusum be bambae oli mas givim bak afta, wetem intres.

Maonting- Wan samting we oltaem hemi holem ol komponen long ples – olsem yumi yusum samting blong hangem ol piija. Semak, blong fiksime gud ol panel i go long ruf wetem maonting blong bambae ino flae aot.

NGO- Non-Govman Okanaesesem – hemi ol okanaesesem we oli helpem komuniti.

Ovajaj- Sipos yu gohed blong jajem batri taem i fulap – semak long baket we i fulap long wota mo i ovafo – batri bambae hemi damej.

Paoa- hemi wan eneji we wan samting i givim ova wan seten taem.

Projek- Samfala impoten wok yumi mekem from wan fiks taem, eksampol bildim wan haos hemi wan projek.

PV Arei- Hemi minim plante sola panel oli konekt tugeta.

Sola Panel- Oli kolek tu 'PV modul' o PV panel. Hemi ol niu saen plet we i konetem san eneji i go long elektrik.

1

Aes Breka - Introdaksen

AKTIVITI 1

Introdusum yu wan blong smol taem nomo. Tokbaot wanem nao yu wantem karem aot long trening ya mo wanem nao ol eksperiens blong yu long bifo we yu bin gat wetem riniwabol enej i faenansol manejen.

2

Wanem hemi Riniwabol
Eneji Faenans? _____

2.1 Riniwabol Eneji (RE)

Riniwabol eneji hemi eneji we i ataj long riniwabol risos, we oli rifl naturoli long human taemskel, olsem sanlaet, win, ren, ol taed, ol wev, mo jiotemol hit.

2.2 Faenansol Manejmen

Faenansol manejmen hemi, dil wetem analaesem mane, invesmen mo profitabiliti blong wan man o wan bisnis blong alaoem wan man o wan bisnis blong mekem gudfala disisen. Riniwabol eneji Projek hemi no difren mo i rikwae analaes blong aedentifae riten long investmen.

FIKA 1: Ol Risk blong RE teknoloji¹

Typical RE risks of the different RE technologies	
RE type	Key Risk Issues
Geothermal	- Drilling expense and associated risk (e.g. blow out) - Exploration risk (e.g. unexpected temperature and flow rate) - Critical components failures such as pumps breakdowns - Long lead times (e.g. planning consents)
Solar PV	- Component breakdowns - Weather damage - Theft / vandalism
Small hydro-power	- Flooding - Seasonal / annual resource variability - Prolonged breakdowns due to offsite monitoring (long response time)
Windpower	- High upfront costs - Critical component failures - Wind resource variability - Offshore cable laying
Biomass power	- Fuel supply availability / variability - Resource price variability - Environmental liabilities associated with fuel handling and storage
Biogas power	- Resource risk - Planning opposition associated with odor problems
Tidal/wave power	- Survivability in harsh marine environments - Prototypical / technology risks, Various designs and concepts but with no clear winner at present - Small scale and long lead times

Source: UNEP - Financial Risk Management Instruments for Renewable Energy Projects, Summary Document, 2004

Oli soem ol taeb blong difren RE teknoloji long Fika 1. Blong sponsarem ol riniwabol eneji Projek i nidim bigfala amaon blong mane mo hemi gat limit long plante developing kantri, so riniwabol eneji Faenansol manejmen hemi impoten blong sekurem ol mane.

2.3 Riniwabol Eneji Projek Fremwok

Tredisonal riniwabol eneji Projek i gat ol fremwok we i stap daon:

1. Aedentifae Projek:

- Aedentifaem eneji rikwaemen (saes mo rikwaemen).
- Oli aedentifaem ol sos blong riniwabol eneji (eksampol, i gat wota strim i stap) we i talemaot riniwabol eneji teknoloji (eksampol, Blong wota stim, haedro eneji, solar system we oli save instolem).
- Agrimen blong evri stekholda sipos oli instolem wanwan (eksampol, ol man long vilej).
- Aedentifaem ples blo putum.

2. Mane:

- Aedentifaem ol benefiseri mo hamas bambae i kostem.
- Hu bambae i fandem (eksampol: wanwan loan o gavman saplae)?
- Samtaem oli save saenem paoa pejes agrimen blong bambae oli save ekspotem eksos blong eneji (salem) igo long grid.

3. Bilding:

- Aedentifae hu bambae i bildim (eksampol: ol man long vilej o kontrakta).
- Komplitim instolesen.
- Testem mo komisonem.

4. Onem mo operatem:

- Sipos i gat wan ejensi i bin givim mane from Projek, oli save ranem mo jajem kasem taem we oli kavremap bak kost blo olgeta. Taem oli kavremap kost finis, oli transferem onasip.
- Sipos ol lokol oli givim mane from, ol man long vilej o wanwan ona blong haoshol bambae oli onem mo operatem.
- Sipos oli saenem paoa pejes agrimen, oli ekspotem adisonal eneji, mo mane we oli kasem bambae oli yusum blong pem ol loan blong instolem sistem.

1 UNEP- "Financial Risk management Instruments for Renewable Energy Projects Scoping", Summary Document, 2004, <https://wedocs.unep.org/20.500.11822/9450>

2.4 Aedentifae Riniwabol Eneji Projek

Riniwabol eneji Projek hemi wan aktiviti we hemi involvem yus blong riniwabol risos we i topemap ova long taem blong sun, wota, win, samfala moa blong produsum eneji.

Potensol blong riniwabol eneji Projek hemi dipen long:

1. Wanem hemi eneji sos?

Maet eneji sos hemi sola, haedro, win blong smol komuniti Projek. I dipen long weples yu stap mo wanem yu gat akses long hem.

FIKA 2: Sola Eneji²



FIKA 3: Sarakata Haedro long Santo³



2. Hamas eneji nao i rikwae blong produsum?

Hemia i dipen long hamas eneji i rikwae long wan haeshol mo hamas haeshol i nidim eneji. Blong eksampol: smol sola Projek i save gat wanwan sola sistem long wan haeshol, o maet hemi wan sistem blong evri haeshol long wan vilej.

3. Sos blo eneji hemi inafn blong produsum eneji we i rikwae?

Hemi impoten blong andastem hamas eneji sos i save produsum. Sipos hemi sola sistem, afta bae i nogat isiu mo wanwan haeshol i save gat sola sistem blong hem wan be sipos hemi wan haedro sistem, afta wota strim bambae i mas inaf blong produsum inaf eneji blong wan haeshol o wan komuniti.

4. Wanem nao saes blo sistem?

Lukluk long eneji rikwaemen long haos, yu save fainem saes blong sistem mo tu yu save aedentifae totol paoa rikwaemen blong haeshol o blong wan komuniti.

5. Hamas nao mane blong hem?

Taem yumi save rikwaemen blong paoa mo taeb blong sistem (eksampol: aedentifae Sola o Haedro), afta yumi karem ol kotesen long ol lokol saplae.

6. Hu bambae i givim mane from?

Mane i save kam long ol man long vilej, o oli save aplae from gran blong gavman o eni dona patna.

7. Wanem nao hemi period blong pem bak?

Period blong pem bak hemi minim; long hamas yia bambae yu pem bak invesmen blong yu. Blong eksampol, yu wantem blong instolem wan sola sistem we hemi kost \$500 blong instolem. Taem bambae yu instolem sistem ya bambae yu sevem \$10 long wan manis long fuel. So, long wan yia bambae yu sevem \$120. Period blong pem bak bambae hemi:

$$\text{Period blong pem bak (ol yia)} = \frac{\text{Totol kost blong instolesen}}{\text{Cas we i flo i kam insaed long wan yia}}$$

$$\text{Pembak} = \frac{\$500}{\$120} = 4.16 \text{ yia (4 yia, 1 manis mo 28 dei)}$$

Be sipos, yu karem loan blong instolem, bambae totol kost i nomo \$500. So, sipos yu karem wan loan wetem wan intres ret blong 20% long wan yia blong period blong 5 yia, nao ekstra kost blong yu long wan yia bambae hemi:

$$\text{Intres kost long wan yia} = \frac{\text{intres\% x amaon blong Loan}}{100}$$

$$\text{Intres long wan yia} = \frac{20}{100} \times 500 = \$100 \text{ long wan yia}$$

2 Source: Europe for Culture, 2018, <http://anoeeuropeu.patrimoniocultural.gov.pt/index.php/resultados-do-ano-europeu-do-patrimonio-cultural-2018/>

3 Source: Vanuatu Daily Post, https://dailypost.vu/news/dialogue-on-2nd-sarakata-hydro-power-project/article_123fc23a-97b5-5ee8-bf93-0af5c0fb1cb7.html

Bambae yu gat klin eneji, bambae yu gat akses long eneji evri taem, gudfala kwaliti laet mo samfala moa.

Wan badjet hemi wan faenansol plan (wan estimet blong inkam mo ekspendija) blong wan klia period. [Wan simpol templet yu save yusum blong rikodem ol impoten infomesen olsem i stap daon:](#)

2.4.2 Manejem ol Fand

- Mekemsua se evri inkam we i produsum, mo evri ekspens we i mekem wan tresora we oli nominetem bambae i rikodem.

- Kipim evri risit mo invoices olsem pruf blong ekspens o inkam.
- Mekemsua se komiti we i lukaotem riniwabol eneji Projek ya i mit evri manis blong gat brif ripot long Faenansol stetas blong Projek i.e., hamas mane i bin kam insaed mo hamas mane oli bin yusum.
- Evri yia komiti i mas presentem wan ripot blong odit blong ol faenans long ol stekholda mo ol komuniti memba.

[illegible]

AKTIVITI 2

1. Naoia (long 7 antap) loan amaon blong yu inkludum intres i kam \$1000. Yusum seving blong yu evri yia blong \$120, kalkuletem period blong pembak.

AKTIVITI 3

1. Sipos vilej blong yu i diskasem long miting blong vilej se oli wantem instolem wan riniwabol eneji sistem blong vilej. Paoa rikwaemen hemi olsem we i stap daon:
 - a. I gat 10 haoshol long vilej
 - b. Wanwan haoshol i rikwae 50 watts' paoa
 - c. Wanwan haoshol bambae i gat DC paoa nomo wetem laet mo blong redio

Vilej hemi gat akses long wota strim. Hed blong vilej blong yu i faenem wan katalok long Eneji Diptamen we i gat sam infomesen long riniwabol eneji sistem mo praes. Infomesen hemi olsem we i stap daon:

- a. Wan 600W pico-haedro (turbine mo jenereta) sistem i kostem \$700
- b. Ol narafala kost blong gat pico-haedro sistem (waeoring, batri, kontrola) wok bambae hemi kostem samples \$1300
- c. Wan 75W sola panel, batri, mo kost blong kontrola \$180 inkludum instolesen.

Wanwan haoshol long vilej blong yu i gat fuel kost blong \$5/wik blong provaedem laet mo \$2/wik blong batri blong redio. From yu bin atendem kos ya long vilej blong yu, hed blo vilej i wantem blong yu advaesem hem:

- i. Wanem hemi total paoa we i rikwae long vilej?

- ii. Wanem nao bambae hemi isi peibak sipos vilej hemi mekemap tingting blong instolem pico-haedro mo ol man long vilej oli kontribut blong pem sistem

- iii. Wanem nao bambae hemi isi peibak sipos vilej i mekemap tingting blong instolem sola sistem mo ol man long vilej bambae oli tekem wan loan long bank long wan intres ret blong 20% long wan yia blong wan peibak period blong 5 yia?

3

Funding Opportunities —————

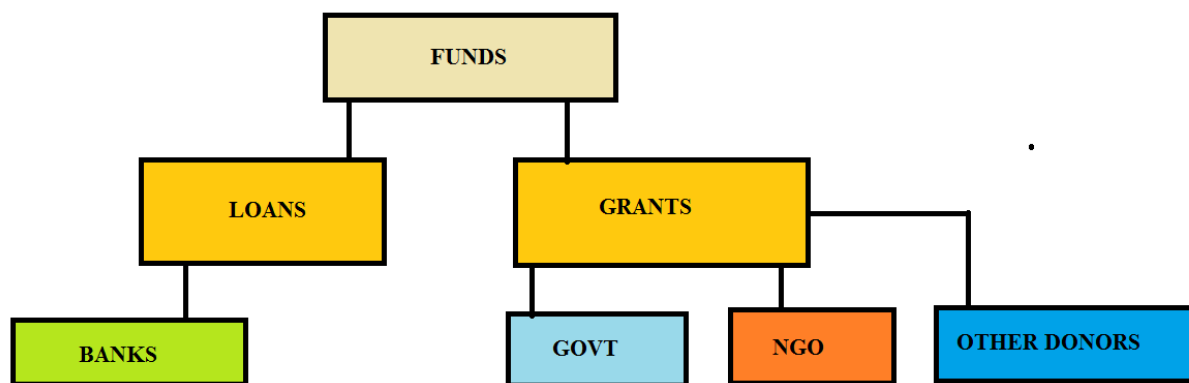
I gat tufala wei blong karem mane blong wan Projek, hemia i blong resemep praevet capitol o karem pablik akses fand.

Praevet kapitol hemi taem we wan man i kivim mane blong wan projek eksampol wan hom sola sistem o taem wan grup blong ol man long vilej oli putum mane blong pem wan Projek – eksampol Pico haedro blong komuniti.

Pablik akses fanding – ol fand ya oli avelebol long pablik tru long saksesful aplikesen. Ol pablik fand oli avelebol olsem ol loan mo grant.

Ol Loan mo ol fund we bambae man i mas pembak wetem wan intres amaon we oli ademep long hem. Ol grant hemi ol mane we bambae man i no pembak. Fika daon i soem samfala sos blong loan mo grant.

FIKA 4: Ol Loan mo Grant⁴



3.1 Ol Loan

Plante rijinol bank nao oli ofarem loan blong ol smol projek. Be ol komesol bank oli rikwae wan karenti (guarantor) o sekuriti blong givimaot loan. Wan sekuriti hemi eni samting we i gat valu we bank i save tekem long yu sapos yu no save pem bak loan.

FIKA 5: ol kampani oli tekem loan mo tu ol wanwan man⁵



3.2 Ol Grant

Samfala long ol moa komon sos blong grant hemi inkludum:

3.2.1 Ol Gavman

Gavmant oltaem oli risivim ol ektstenol grant, o maet oli yusum revenu blong olgeta blong krietem ol grant blong promoten riniwabol eneji Projek. Gavman oltaem i openemap ol skim mo advetaesem tru long TV mo radio blong ol man blong aplae.

⁴ Source: GGGI, Fiji.

⁵ CBS Power Solutions, May 2021, <https://www.worldbank.org/>

3.3 Ol grants Dona Ejensi

Ol NGO' mo ol Dona ejensi oli provaedem tu ol grant blong ol RE Projek. Samfala long ol aktiv dona ejensi we yu save kasem long rijen oli:

3.3.1 Korea International Cooperation Agency (KOICA)

KOICA i provaedem fand long rijen long ol difren level mo blong wan bigfala kaen eria we i stat long eneji i go kasem helt mo go long edukesen. Ol bigfala program we KOICA i listim hemi:

- Establismen blong micro –grid sistems
- Distribusen blong Sola Hom Sistem
- Distribusen blong klin Stov blong Kuk
- Promosen blong riniwabol eneji risos, moa nao sola mo haedro
- Establismen blong micro-grid sistem
- Establismen blong grid-konekt paoa jeneresen sistem
- Developmen blong ol institusen blong riniwabol eneji promosen
- Transmisien mo distribusen blong otomesen (automation) mo efisiensi impruvmen
- Hiting mo temol efisiensi impruvmen
- Kapasiti bilding mo R&D infrastrukja sapot

Be yu mas kontaktem Pasifik ofis blong olgeta we i bes long Suva Fiji mo blong faenemaot olsem wanem oli stap fandem ol Projek long rijen mo blong faenemaot sipos propos Projek proposol blong yu i kwalifae blong wan grant.

3.3.2 Vanuatu Nasonal Grin Eneji Fund

Em blong Vanuatu Nasonal Grin Eneji Fund (NGEF) hemi blong fasilitetem kapitol invesmen opotuniti blong impruvum eneji akses long haoshol mo ol bisnis long rurol eria mo peri-urban eria we i risal long impruvum laevlihud, krietem ol wok, mo bigfala opotuniti blong inkam jeneresen tru long implementesen blong riniwabol eneji mo eneji efisiensi.⁶

3.3.3 Dipatmen blong Foren Afea mo Tred Australia (DFAT)

Objektiv blong hem i blong helpem ol developing kantri blong katem daon poveti mo ajivim sastenebol developmen. Hemi provaedem tu polisi advaes mo sapot long Minista mo Sekreteri blong Palamen long ol developmen isiu mo ol plan mo kodinetem poveti ridaksen aktiviti long patnasip wetem developing kantri.⁷

3.3.4 Climate Change Fund (CCF) (Asian Development Bank)

CCF oli bin establisim long Mei 2008 blong fasilitetem bigfala invesmen long developing memba kantri (DMC) blong adresem fand ol kos mo konsikwens blong klaemet jens. CCF hemi wan ki mekanisim we i mekem wan pul blong risos insaed long ADB blong adresem klaemet jens tru long teknikal asistens (TA) mo grant component blong ol invesmen Projek.⁸

3.3.5 Global Environment Facility Least Developed Kantri Fund

Long plante kes, GEF i provaedem fand blong sapotem gavman Projek mo ol prokram. I gat plante isiu blong konsidarem taem yumi lukatotem GEF fand. Blong asistens mo ol kwesten, yu save visitim websaet blong olgeta (<http://www.thegef.org/about/funding>), o askem o lukaotem infomesen long ol lokal gavman ofisol blong yu.⁹

3.3.6 NZ AID o Ministri blong Foren Afea mo Tred (MFAT) New Zealand

MFAT New Zealand we yumi save bifo olsem NZ AID i sponsarem tu komuniti riled Projek long Saot Pasifik. Ministri blong Foren Afea mo Tred (MFAT) hemi pablik seves blong New Zealand mo wok long patnasip wetem ova long 30 narafala Gavman ejensi blong dilivarem developmen koperesen raon long Pasifik.¹⁰

6 Source: GGGI, <https://gggi.org/project/vanuatu-national-green-energy-fund-ngef/>

7 Australian Government Department of Foreign Affairs and Trade, <https://www.dfat.gov.au/>

8 Asian Development Bank, "Climate Change Fund", <https://www.adb.org/what-we-do/funds/climate-change-fund>

9 Global Environment Facility (GEF), "Least Development Countries Funds-LDCF", <https://www.thegef.org/topics/least-developed-countries-fund-ldcf>

10 New Zealand Foreign Affairs & Trade <https://www.mfat.govt.nz/en/>

3.3.7 European Union – Global Eneji Efficiency mo Riniwabol Eneji Fund

Fand manejen kompani, Faenansol institusen, Projek developa o wanwan man we oli em blong developem wan klin eneji investmen fand o ekspandem wan fand we i stap finis i go long klin eneji i save sabmitim ol proposal blong lukaotem faenans.¹¹

3.3.8 Agence Française de Développement (AFD - France)

Oi lokol kontrakta otoriti oli sabmitim aplikesen i go long AFD ofis blong identifie projek. Wan fisibiliti stadi, inkludum wan teknikal stadi, maket sevei, mo karemaot Faenansol Projek plan.¹²

3.3.9 International Climate Initiative (Germany)

Program ya German Ministry blong Environment mo provaedem Faenansol sapot long intenasonal Projek long klaemet jens mitikesen, adaptesen, REDD+ mo biodaevesi konsevesen.¹³

3.3.10 Japan Internasonal Cooperation Agency (Japan)

Japan International Cooperation Agency (JICA) i em blong kontibut long promosen blong intenasonal koperesen tu mo saon developmen blong Japanese mo globol ekonomi blong sapotem sosioekonomik developmen, rikavari, o ekonomik stabiliti blong developing rijen.¹⁴

Long Disemba. 18, Japan International Cooperation Agency (JICA) i saenem wan grant agrimen wetem Gavmen blong Ripablik blong Vanuatu long Port Vila, blong provaedem grant aid blong kasem 1.83 billion vatu blong Projek blong Disasta Rikonstraksen blong Teouma Bridge. JICA i ranem tu "Introdaksen Hybrid Paoa Jeneresen Sistem in PICs 2017–2022" long Pasifik.

3.3.11 USAID

USAID lidim intenasonal developmen mo humaneterian efot blong sevem ol laef, katemdaon poveti, bildimap demokratik gavanans, mo helpem ol man blong progres aot moa bitim asistens.¹⁵

3.3.12 IUCN

Intenasonal Union blong Consevesen blong Neja (IUCN) hemi wan intanasonal okanaesesen we i wok long fil blong neja konsevesen mo sastenebol yus blong natural risos.¹⁶

Oi Not:

11 Global Energy Efficiency Renewable Energy Fund (GEEREF), <https://geeref.com/about/what-geeref-is.html>

12 Agence Francaise De Development, <https://www.afd.fr/en>

13 International Climate Initiative (IKI), <https://www.international-climate-initiative.com/en/about-iki/iki-funding-instrument>

14 Japan International Cooperation Agency (JICA), <https://www.jica.go.jp/english/countries/oceania/index.html>

15 USAID From the American People, <https://www.usaid.gov/pacific-islands>

16 International Union for Conservation of Nature, <https://www.iucn.org/regions/oceania>

4

Revenu mo Ekspens
blong ol Riniwabol
Eneji Projek —————

4.1 Riniwabol Eneji Projek

Long riniwabol eneji Projek kost hemi brokigo long tufala men pat – Revenu mo Ekspens.

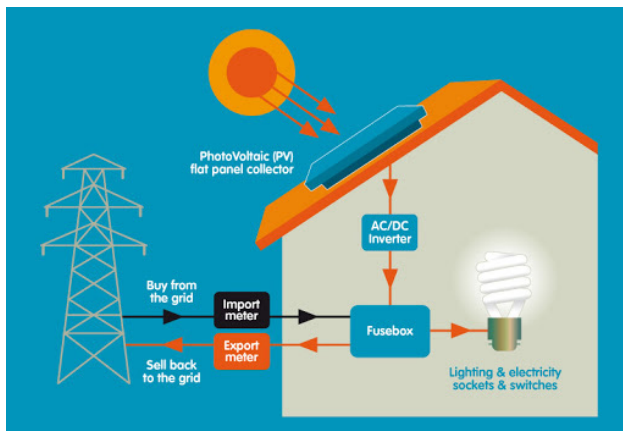
4.2 Revenu long riniwabol eneji

Revenu hemi mane we Projek i produsum o sevem. Eksampol, instolem sola i minim se i kam fri nomo. Naoia yu save sevem \$50 long wan manis blong pem diesel fuel blong jenereta o pem grid elektrik, afta hemia nao inkam o Revenu we yu produsum.

Mo tu, long ol komuniti Projek, blong pem mentenens yu nidim blong jajem wan smol fi o bil blong yusum eneji, mo hemia i Revenu blong Projek tu.

Sapos RE Projek blong yu i kam olsem grid konekt, long samfala kes yu save salem i go long grid mo karem mane olsem pei blong ol unit blong eneji we yu salem.

FIKA 6: Grid konekt wetem sola i save aloem yu blong salem grid¹⁷



¹⁷ Adapted from RJ SOLAR, "What is Solar PV and how does it work?", <http://www.rjsolar.co.uk/>

¹⁸ Panasian Power, <http://panasianpower.com/>

¹⁹ VU PHONG, "How much does a Solar Power System Cost?", <https://vu-phongsolar.com/how-much-does-a-solar-power-system-cost/>

4.3 Ol Taeb blong Kost

I gat plante ekspens blong tingbaot long riniwabol eneji Projek. Bigfala ekspens hemi instolesen blong Projek. Be afta long instolesen, ol ekspens oli stil hapen. Yumi traem luk sam ekspens long RE Projek:

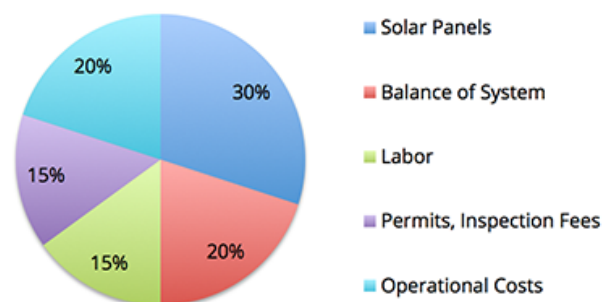
- Kapitol ekspens blong instolesen: Ekspens ya hemi folem inisol saes, disaen mo pejes blong ol ikwipmen mo tu leba mo kost blong transpot.

FIKA 7: Kapitol kost long haedro Projek oli hae tumas from oli involvem ol Dam konstraksen¹⁸



- Operating Kost o Ekspens: Hemia i involvem evri ekspens blong ranem gud riniwabol eneji Projek afta instolesen stej i komplit. Eksampol, wan diesel jenereta we oli instolem blong wan skul bambae hemi pem olsem operating kost blong hem. Narafala eksampol, kost o ekspens blong wan sola paoa projek i save kam olsem:

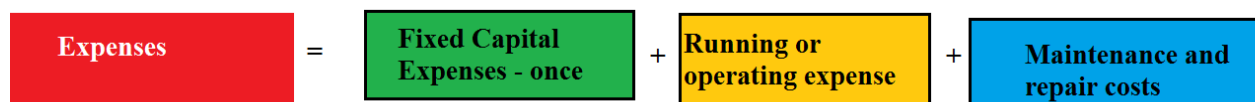
Fika 8 :Ol Kost we oli involv long sola PV sistem¹⁹



- **Mentenenens kost:** Eksampol, nating sapos oli instolem wan PV sistem, i nid blong jenisim batri afta long sam yia. Maet oli haerem wan teknisian blong karemaot mentenenens mo jek long sistem.

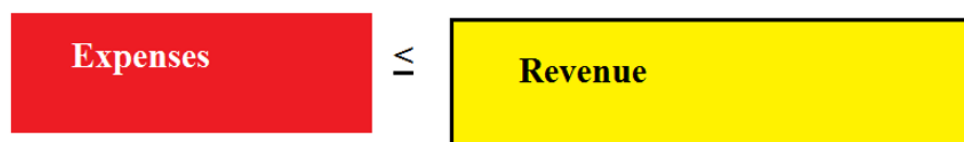
Be, yumi save luk se ovarol ekspens long wan Projek ol trifala ekspens katekori ya nao oli mekemap. Yumi save talem se oli save adem evri ekspens.

FIKA 9: Totol Ekspens kalkulesen²⁰



Men tingting blong sastenebiliti blong Projek long longfala run
– Revenu i mas bigwan long ekspens o mas ikwel long hem.

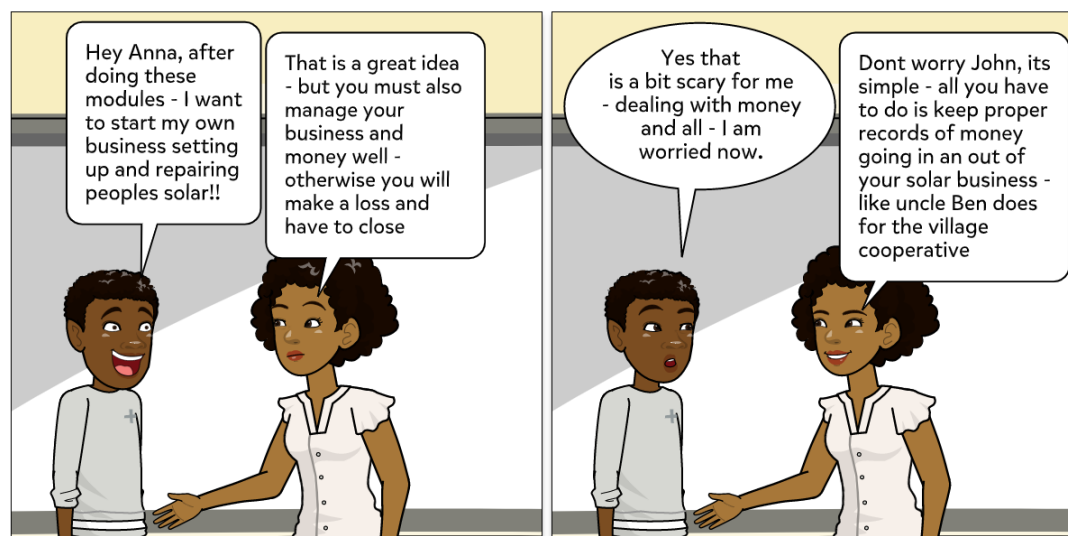
FIKA 10: Revenu i mas ikwel o bigwan bitim ekspens²¹



4.4 Besik Bukkiping

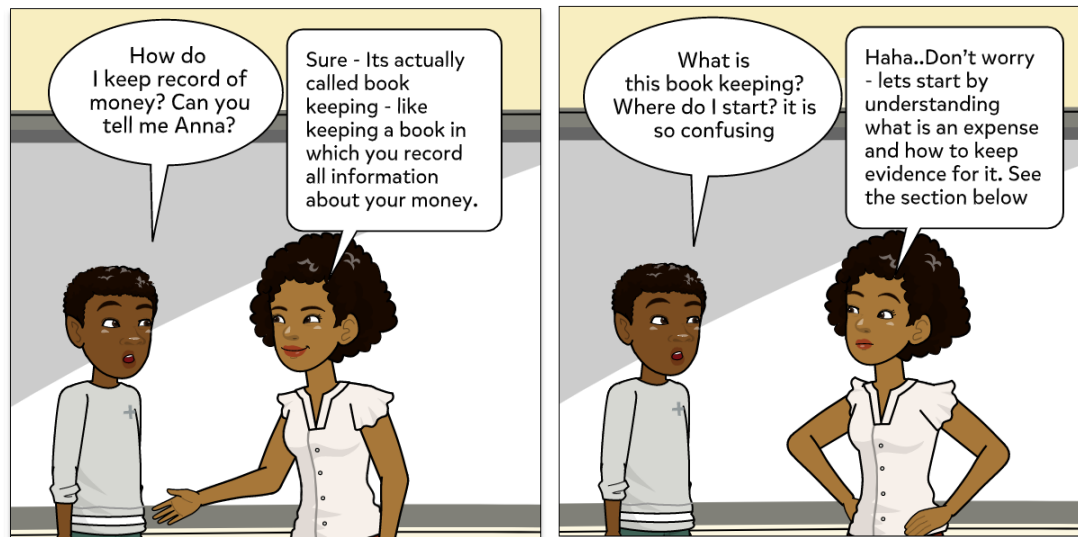
Bukkiping hemi impoten long plante bisnis. Maet yu gat koperetiv long eria blong yu we yu memba tu. Gat wan bukkiping sistem i kipim rikod blong cas we i kam in mo go aot mo hemi impoten blong fuja referens.

Daon hemi konvesesen bitwin Ana mo Jon.



²⁰ Source: GGGI, Fiji.

²¹ Source: GGGI, Fiji.



4.4.1 Ol Ekspens

Evritaem yu pem eni samting o yu haerem bot o salari – eni taem mane i go aot long wallet blong yu, yumi kolem wan ekspens. Hemi impoten blong kipim rikod blong ekspens. Mo tu kipim evidens blong ekspens.

4.4.2 Evidens blong ekspens

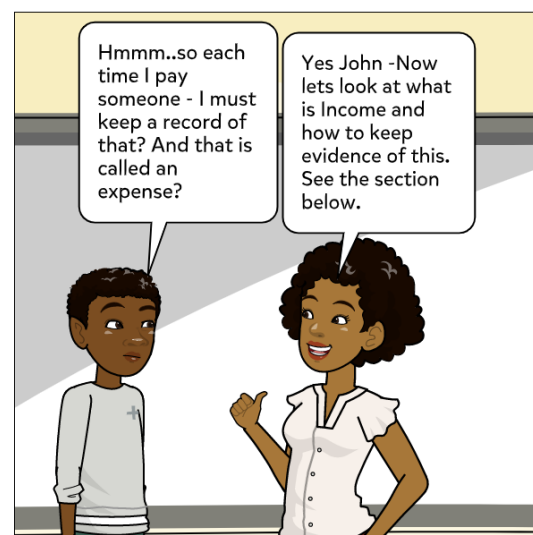
Blong eksmpol, sipos yu pem 15 LED laet balb long stoa long town oli kolem Supa Hadwea blong \$40 – bamabe yu pem ona blong sto mo karem ol balb i kam long vilej. Be olsem wanem long evidens blong pruvum se yu bin pem balb long Supa Hadwea? Blong risen ya, yu mas OLTAEM ASKEM WAN RISIT. Wan risit hemi wan pis dokumen we i pruvum se mane i bin eksjenj blong tufala samting bitwin tufala man.

FIKA 11: Sampol risit we bae yu karem taem yu pem wan samting²²

RECEIPT		DATE _____	NO: 1234								
RECEIVED FROM <u>John</u>											
ADDRESS <u>Rock island</u>											
FOR <u>15 LED LIGHT BULBS</u>		\$40									
<table border="1"> <tr> <th colspan="2">ACCOUNT</th> </tr> <tr> <td>AMT. OF ACCOUNT</td> <td>40</td> </tr> <tr> <td>AMT. PAID</td> <td>\$40</td> </tr> <tr> <td>BALANCE DUE</td> <td></td> </tr> </table>		ACCOUNT		AMT. OF ACCOUNT	40	AMT. PAID	\$40	BALANCE DUE		☐ CASH ☐ CHECK ☐ MONEY ORDER	
ACCOUNT											
AMT. OF ACCOUNT	40										
AMT. PAID	\$40										
BALANCE DUE											
		BY <u>Super Hardware</u>									

Cas risit o simpol risit hemi gat gudfala yus tumas blong kipim wan rikod blong ol samting long bisnis blong yu. Plante risit oli gat risit namba we oli raetem long hem – bambae oli gat kopi

blong risit wetem semak namba we maet yu wantem askem moa afta. Eksampol risit namba antap hemi “1234”.

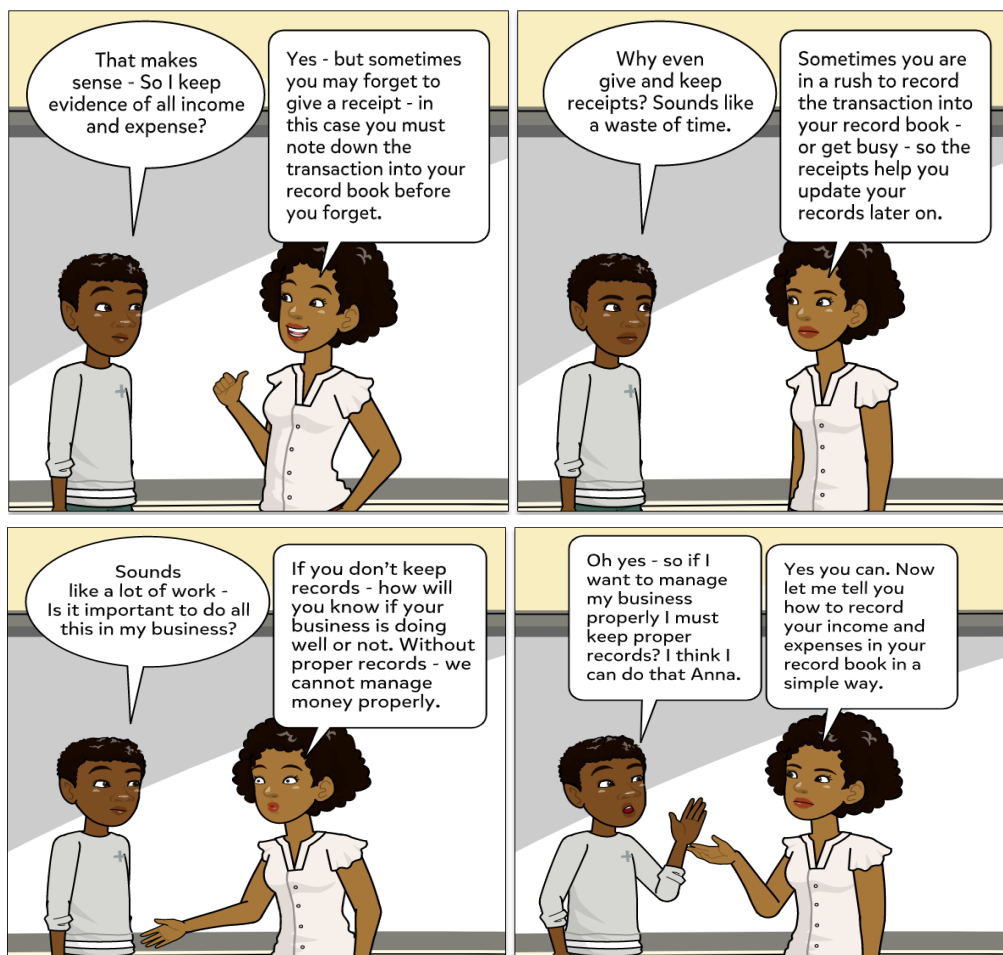


4.4.3 Inkam

Taem wan man i givim mane long yu mo mane i kam long bisnis hemia oli singaotem se inkam. Eksampol, sipos yu salem eni aetem long narafala man o mekem eni wok blong wan man olsem eksjenj blong mane – givim risit long olgeta. Eksampol sipos yu salem wan 5W laet balb long Tall Tom – bambae yu raetem aot risit long risit buk blong yu mo givim kopi blong hem long Tom. Biaen bambae yu yusum orijinol blong apdetem rikod buk. Mo tu, plante risit buk oli gat risit wetem risit namba we oli raetem long hem long red. Namba ya hemi impoten tumas blong kipim long rikod blong yu.

FIKA 12: Sampol risit we yu save yusum long wan risit buk²³

RECEIPT		0008	26/06/2021
No.			DATE
RECEIVED FROM	TALL TOM		
	-FOR ONE 5W LIGHT BULB		
THE SUM OF	\$5.00		
CHEQUE			JOHN
CASH	5	00	
DISCOUNT			



4.4.4 Sinkel Entri Bukkiping

Yu mas save se i gat plante wei blong buk kiping.

FIKA 13: Sampol blong single entri bukkiping tebol²⁴

Det	Deskripsen	Risit No	Inkam (VT)	Ekspens (VT)	Akaon Balans

Wanwan kolom oli lebolem wetem wanem bambae oli plesem long hem. Sapos papa blo John hemi i givim VT10,000 long hem blong statem bisnis blong hem blong salem sola laet

mo ol prodak mo mekem instolesen blong ol man – mane ya hemi inkam o ekspens blong Jon? Yes, hemi inkam. Letem yumi flimap rikod buk.

FIKA 14: Sampol blong entri blong wan inkam i go long rikod blong bisnis²⁵

Det	Diskripsen	Risit Namba	Inkam (VT)	Ekspens (VT)	Akaon Balans
15/05/21	Cas long Papa blong statem bisnis		10,000		10,000

Fesfala entri hemi blong inkam blong VT 10,000 we papa blong Jon i bin givim blong helpem hem blong statem sola bisnis blong hem. Hemia oltaem oli singaotem kapitol. Fesfala entri hemi kam akaon balans. Naoia yumi putum in ekspens we

Jon i mekem taem hemi pem 15 laet balb blong VT4,000 long Hadwea. Tingbaot oltaem se long sinkel entri yumi ademap inkam mo sabtraktem ekspens aot long akaon balans. Long samfala buk ekspens oltaem oli raetem wetem neketiv saen.

FIKA 15: Sampol entri blong ekspens mo faenemaot niufala balans²⁶

Det	Diskripsen	Risit Namba	Inkam (VT)	Ekspens (VT)	Akaon Balans (VT)
15/05/21	Cas long Papa blong statem bisnis		10,000		10,000
20/05/21	Pem 10 balb long Wilco Hardware	1234		4,000	6,000

So, yumi sabtraktem ekspens blong VT4,000 long akaon balans blong VT10,000. Hemia i mekem niufala balans blong akaon hemi VT6,000 mo yumi raetem long semak laen ananit long akaon balans. Nekis samting yumi traem tingbaot se Jon

hemi salem wan laet balb long Tall Tom. Lukluk long risit antap we Jon i givim long Tall Tom taem we Tall Tom i pem VT500 blong wan laet balb.

²⁴ Source: GGGI, Fiji.

²⁵ Source: GGGI, Fiji.

²⁶ Source: GGGI, Fiji.

FIKA 16: Sampol entri blong narafala inkam mo apdet blong rikod²⁷

Det	Diskripsen	Risit Namba	Inkam (VT)	Ekspens (VT)	Aakaon Balans (VT)
15/05/21	Cas long Papa blong statem bisnis		10,000		10,000
20/05/21	Pem 10 balb long aelan Hadwea	1234		4,000	6,000
26/05/21	Salem wan 5w bulb long Tall Tom	8	500		6,500

Yu lukim yumi ademap VT500 long akaon balans blong VT6,000 mo niufala balans hemi kam VT6,500. Naoia bambae yumi lukim fika we Jon i bin mekem blong wan manis wetem difidifren ekspens mo inkam.

Fika 17: Sampol blong olsem wanem nao klosing balans long en blong manis yumi save faenem²⁸

Det	Diskripsen	Risit Namba	Inkam (VT)	Ekspens (VT)	Aakaon Balans (VT)
15/05/21	Cas long Papa blong statem bisnis		10,000		10,000
20/05/21	Pem 10 balb long Wilco Hardware	1234		4,000	6,000
26/05/21	Salem wan 5w balb long Tall Tom	8	500		6,500
29/05/21	Salem sikis 5w balb i go long vilej koperativ	9	4,500		11,000
29/05/21	Pem Pita blong dilivarem balb long stoa			500	10,500
30/05/21	Balans long en blong Jun		15,000	4,500	10,500

Long en blong manis, oltaem yumi lukluk long rikod buk blong luk nomo se yumi stap mekem olsem wanem. Yumi ademapp evri ekspens mo raetem long laen wea yumi talemaot ending balans blong manis. Blong eksampol, Blong Jon yumi save lukim se kasem det we hemi mekem VT15,000 long inkam mo spenem VT4,500 long ol ekspens. Taem yumi sabraktem ekspens long inkam, yumi save profit we yumi bin mekem. So long kes blong Jon: VT15,000 maenas VT4,500 hemi stret VT 10,500 profit we hemi gat long balans blong hem.

Long samfala kes, yumi no tritim stat blong kapitol olsem inkam. So sipos yumi jes tekemaot transaksen blong Jun

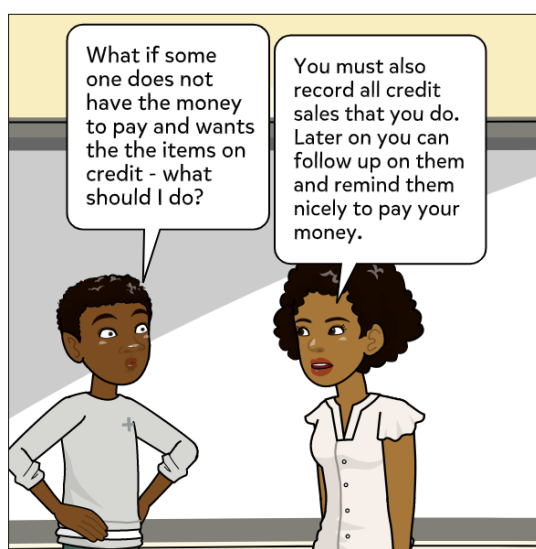
blong bisnis blong Jon mo karemaot VT10,000 inkam – hemi gat VT4,500 ekspens mo VT5,000 inkam.

So blong manis ya nomo, profit blong hem hemi VT500. Hemi gud tumas blong tekemaot profit blong wanwan manis seperet so Jon i save olsem wanem nao i mekem long wanwan manis.

Propa rikod kiping hemi alaoem yumi blong save olsem bisnis blong yumi i stap go.

²⁷ Source: GGGI, Fiji.

²⁸ Source: GGGI, Fiji.



4.4.5 Sel long Kredit

Hemi impoten blong tekem rikod blong ol man we oli tekem samting long kredit. Wan isi kredit rikod i save luk olsem hemia daon.

Imajin tufala man long vilej blong Jon – Timoti mo Bobo i pem sam aetem be tufala i no save pem ful amaon. So Jon i alaoem tufala blong pem balans biae. Hemia yu mas rikodem i go long credit sels buk o kredita rikod. Lukim eksampol daon.

FIKA 18: Sampol rikod tebol blong kipim kredit sel rikod²⁹

Det	Nem	Diskripsen	Risit Namba	Total Kredit (VT)	Pem (VT)	Akaon Balans (VT)
15/05/21	Bobo	2 X 5w balb-kredit	1102	1,000	500	500
20/05/21	Timoti	20m elektrikol waea mo fan	1103	5,000	4,000	1,000
2/08/21	Bobo	2 X 5w balb seken peimen		500	500	0

AKTIVITI 4

Konsidarem kes stadi daon mo traem blong mekem wan simpol bukkiping o cas rikod kiping tebol. Yu save askem help long trena blong yu. Yu save go bak long ol not long bukkiping blong helpem yu mekem aktiviti ya. Hemi wan yusful aktiviti blong eni smol bisnis o Projek.

Wan smol komuniti Projek oli bin planem long wan vilej long Santo. Oli man long vilej oli tingting blong setemap wan komuniti sola paoa sistem koperativ. Kost blong panel bambae hemi samples VT30,000 long wan. Wanwan panel i save jeneret samples 300W. Vilej sistem i nid blong jeneret samples 3000W paoa. Oli nidim batri bakap tu blong samples 10 x 100Ah batri. Wan batri hemi kost samples VT45,000 long wan. Oli waea mo ol narafala balans blong sistem cost samples VT200,000 wetem ol simpol laet blong 10 haos. Oli lokol teknisian oli talem se oli save setemap sistem long 7 dei. So, i nid blong haerem 3 teknisian blong VT5,000 long wan

dei blong 7 dei. Gavman bambae hemi pem orijinol sistem instolesen grant blong VT1,000,000. Sola sistem i nidim batri blong riplesen long 7 yia' taem mo blong lukaotem hemia mo ol narafala mentenens, vilej hemi tingting blong jajem 10 haoshol VT200 long wan manis olsem sejaj (surcharge) blong resemaphand blong riplesem ol komponen. Evri 6 manis wan teknisian i nid blong inspektem sistem long kost blongVT22,000.

Imajin se yu nao man blong akaons blong komuniti sola koperativ. Traem mekem wan simpol bukkiping rikod bes long infomesen antap blong fesfala sikis manis blong Projek. Yusum bukkiping rikod blong mekemaphand tingting sipos ol haoshols oli nidim blong inkrisim kontribusen long koperativ o no? VT200 peimen amaon long wan manis inaf blong longfala ran mo kipap blong sola sistem

Det	Diskripsen	Risit Namba	Inkam (VT)	Ekpens (VT)	Akaon Balans (VT)

OI Not:

KES STADI: Wan Simpol Faenansol Komparesen blong Sola Mini- Grid Sistem

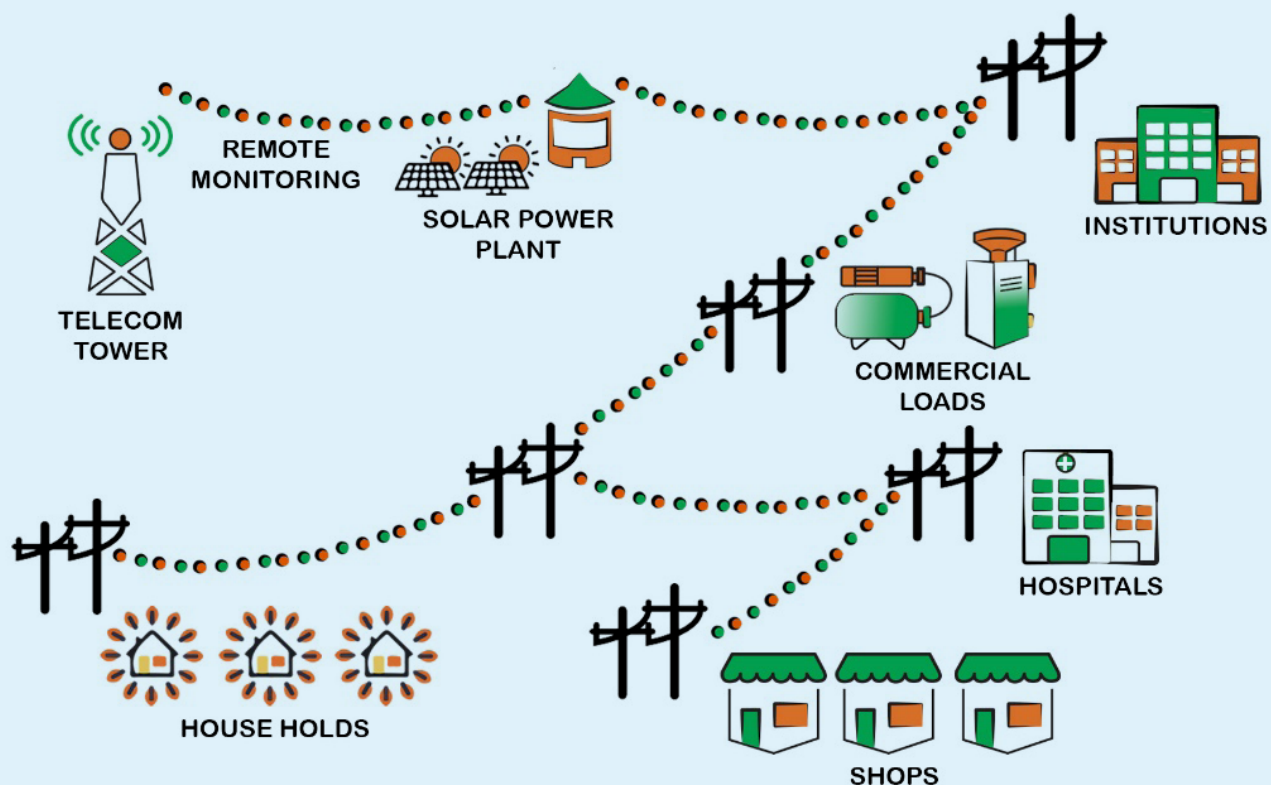
Daon hemi wan kes stadi blong wan stret Faenansol komparensen blong sola mini-grid sistem long Fiji we hemi inkludum klia eksplenesen long samfala ki faka blong konsidarem taem yumi mekemsua se Faenansol viabiliti blong wan sola mini-grid sistem long wan komuniti.

Provaedem paoa blong rimot mo rurol lokesen blong ekstendem utiliti grid (paoa laen) hemi oltaem ekspensiv tumas from ol bigfala distens, raf rod (ol bigfala hil, ol reva sam moa) o maet ino save posibol sipos osen i seperetem komuniti. Nao olsem wanem nao bambae yumi provaedem klin utiliti taeb sola long wan bigfala skel long ol rimot lokesen ya? Ansa hemi blong yusum mini-grid sistem.

Nating we yumi bin diskasem sam aksul sola mini-grid sistem long sola modul, long modul ya, bambae yumi traem blong lukim wan Faenansol saed we i isi moa. Bambae yumi traem blong andastanem Faenansol jalens blong putum antap wan sistem, wanem nao hemi moa impoten, wanem pat nao komuniti i save mo mas plei blong mekemsua se sistem i wok blong longfala taem.

Wan sola mini-grid sistem hemi wan bigfala AC taep sistem we oli instolem blong givim paoa long ful komuniti, be ino wan haos nomo.

FIKA 19: Sola Mini-grid sistem³⁰



30 Source: <https://www.tauria.com/mini-grid-model/>, Accessed on 4/11/2020

Kwaliti blong paoa sistem i semak olsem olgeta we oli provaed long grid/paoa laen long urban town mo ol cities, be yu save paoa eni taeb blong AC aplaens long hemia, maet i gat samfala restriksen i stap blong priventem ol man blong traem blong paoarem ol bigfala ikwipmen we i save ovalodem o damejem sistem. Sistem i save handelem samfala fom blong tariff mita sistem we i kaontem amaon blong eneji we wanwan haoshol i yusum, mo wanwan haoshol i rikwae blong pem eneji we oli yusum.

Mane we i kolekt long mita sistem i sevem wan impoten fansen, from i go bak oltaem long otoriti we i instolem minigrid sistem o paoa komiti we oli nominetem, we i save

yusum blong rikavarem cost blong instolesen sistem, mekem sistem mentenens, ol ripplesmen blong pat, o pem narafala ekspens we i asosiet wetem ranem sistem.

Letem yumi mekem wan kompea mo kontras eksesaes bitwin sistem. Bambae yumi kolek hemia se “**Sistem A**” mo “**Sistem B**”. Bambae yumi traem blong lukluk long besik Faenansol aspek, besik teknikal infomesen mo tu ol jalens we oli fesem long taem blong instolesen, operesen, mo mentenens period. Bambae yumi diskasem wanem komuniti i save mekem blong katemdaon o risolvem ol jalens blong benefit blong ful komuniti. Afta long evri samting, paoa sistem i benefitim ful komuniti.

Paramita	Sistem A	Sistem B	Ol Komen
Teknikol Infomesen			
Sola Sistem saes	5 kW	50 kW	Hemia total paoa blong ol Sola panel we oli instolem. (Not: 1 kW = 1000 watts)
Batri Kapasiti	45 kWh	200 kWh	Hemia total saes blong batri we i instol.
Bakap Diesel Jenereta	10 kW	60 kW	Hemia i provaeden bakap paoa blong rijajem ol batri long taem blong pua weta, taem sola PV i no save jajem batri fulwan.
Namba blong haoshol we oli konekt	50 haoshol	50 haoshol	Hemia total namba blong haoshol we oli karem saplae blong paoa long sistem.
Faenansol Infomesen			
Projek Kost	VT25 milion	VT200 milion	Hemia total kost blong instolem sistem
Sos blong fand	Grant	Grant	Grant i minim se gavman i provaedem mane o sam narafala okanaesesen. Mo bambae ino blong komuniti i pem sistem
Kost yusum elektrik	VT200 / unit	VT50 / unit	Hemia hemi wan unit cost blong elektrik se wanwan haoshol bambae oli pem. Moa unit yu yusum, moa yu pem. (Not: 1 unit = 1 kWh)
Total Revenu	VT960,000 / yia	VT1.2milion/yia	Hemia total mane we oli kolektem evri yia long evri haoshol blong yusum elektrik. (Not: amaon ya ino fiks mo i dipen long hamas elektrik komuniti i yusum)
Total Ekspens	VT240,000 / yia	VT300,000 / yia	Hemia kost blong pem mo transpotem diesel mo kost blong operetem mo mentenem sistem (inkludum salari blong ol man we oli mentenem, monitarem, kolektem Revenu, internet jaj mo transpotesen cost we maet i gat sam visit long eria etc)
Total Profit	VT720,000/ yia	VT900,000 / yia	Total Revenu – Total Ekspens

Diskasen Taem

Diskasen/Jalens	Wanem nao komuniti i save mekem?
1. Projek Cost oli hae tumas (A: VT25 milion mo B: VT200 Milion). Hemi had tumas blong komuniti blong resem bigfala amaon blong mane long olgeta nomo. Mo tu blong tekem loan hemi had tumas mo i gat bigfala risk blong pem bak.	Wanem nao yu save tingting long hem blong helpem komuniti i inkrisim ol Janis blong karem ol kaen paoa sistem instol o helpem mekem wan sistem we i stap finis i stap longtaem?
2. Sistem A hemi moa smol (5kW) long Sistem B (50kW). Be tugeta oli sevem semak namba blong wanwan haoshol (wanwan 50 haoshol). Hemia i minim se haoshol long Sistem A i save limit nomo mo smol aplaens (blong avoidem ovalod blong smol sistem). Be ol haoshol long Sistem B i save yusum bigfala aplaens we ino ovalodem sistem.	Wanem bakegen we komuniti i tingbaot blong mekemsua yu save mekem ol eneji seving, sevem mane, mo helpem sola sistem blong stap longtaem?
3. Kost blong yusum elektrik long Sistem A hemi moa hae (VT200/unit) kompea long kost blong Sistem B (VT50/unit) . From wanem i gat difrens mo from wanem ino save semak long evri komuniti?	Wanem bakegen komuniti i save mekem blong help blong resem moa mane blong Projek blong mekemsua se i gat self-rilaens long fuja?
4. Tugeta sistem oli mekem wan profit , we i minim se oli mekem moa mane bitim wanem we i rikwae blong ranem sistem. From wanem yumi nid blong mekem profit? From wanem yumi no katemdaon cost blong elektrik blong mekem nomo inaf mane blong ranem ekspens mo no mekem profit?	Wanem nao bae yu tingbaot we bambae i helpem komuniti blong oli self-reliant mo manajem wan sola sistem long sastenebol wei, bae ino nidim help aotsaed taem ol samting oli brok daon?
5. Wanem nao ol narafala jalens we narafala ril laef projek oli fesem we yumi save lan long hem mo wanem nao ol komuniti i save mekem blong faenem solusen?	Yu save ol narafala Projek we oli gat jalens? Yu save talem eni posibol solusen blong ol jalens ya?

5

Enkejem ol Dona
blong Fand

I gat tu men mod blong komunikesen blong enkej wetem posibol dona ejensi.

5.1 Vebol Komunikesen

Vebol komunikesen i involvem toktok long gavman ejensi o dona blong faenem mane. Komunikesen i mas fomol mo semi fomol blong dona i tekem toktok blong yu sirias.

5.2 Komunikesen we oli Raetem

Komunikesen we man i raetem hemi moa komon wei blong komuniket wetem potensol dona espeseli olgeta we oli stap long we. Long plante kes dona o fanding hemi lukluk long tufala taeb blong dokumen bifo oli provaedem grant. Projek proposal o Projek konsept not.

5.3 Raetem Proposal

Oltaem dona mo ejensi oli gat proposal templet we i nidim blong fulumap taem oli askem asistens long Riniwabol Eneji Projek. Yu notem se hemia ino blong yusum long stret aplikesen – yu mas yusum proposal templet we dona o ejensi i givim.

Nem blong Projek: Givim nem blong Projek long plesia - e.g.: Sola Paoa blong Viwa Vilej

Projek Lida: Nem blong man okanaesesen o vilej we i lidim. – e.g.: vilej hedman

Total amaon we i rikwes: total amaon blong mane we yu nidim blong Projek – e.g.: \$13000

Total taemfrem blong Projek: projek bae i stap longtaem oslem wanem – e.g.: 8 manis

Samari: Givim wan brif samari blong Projek. Yusum samples 300 wod mo talem wanem problem yu stap traem blong solvem. Talem wanem yu wantem mekem mo olsem wanem bambae i benefitim komuniti blong yu.

Problem Stetmen: Talem aot ol problem we yu traem blong solvem.

Projek Gol: Talem aot ol jenerol gol blong projek blong yu. eg: Blong provaedem laet long komuniti long naet blong ol pikinini oli stadi.

Projek Objektiv: Tokbaot ol ditel samting we yu wantem mekem. Ol samting ya oli sud gat ol mesa eg: Instolem 2000 W sola pv sistem – long plesia yu bin talem aot klia saes blong panel long objektiv blong yu.

Projek Aotkam mo benefit: Talem abaot wanem aotkam long en blong Projek bambae i kam olsem wanem mo hu bambae i benefit long hem.

Plan blong Wok: Long plesia yumi wantem talem wanem wok nao bambae yumi mekem mo taem yumi mekem wok finis – oltaem yumi mekem tebol blong hemia.

Okanaesesen Ditel: Talem abaot koperetiv blong yu o vilej tim. Raetemaot evri kebabiliti we yu gat long tim.

Badjet Brekdaon: Yu nidim blong save evri ekspens we bambae i hapen long Projek. Yu save go raon blong askem ol praes blong samfala samting. Mekem lis blong evri ekspens mo traem blong estimetem hamas ekspens bambae i kostem yu.

Daon hemi sampol blong Projek proposol we oli fulumap finis long yu blong ridim mo andastenem bifo yu traem blong mekem proposal blong yu wan.

Nem blong Projek: Sola Paoa blong Rock Aelan

Projek Lida: John Keni

Total amaon we i rikwestem: VT1,560,000

Total taemfrem blong Projek: 12 manis

Samari: Rock Aelan i nogat ful taem elektrik naoia. Hemia i minim se ol pikinini oli gat smol taem nomo blong stadi long naet mo ol man oli no save lesin long redio o tv nius long deitaem. So, Koperetiv blong mifala we nem blong hem Rock Aelan Koperetiv i tingting blong instolem wan sola paoa sistem evritaem long Rock aelan. Mifala i wantem tu blong stopem denja long envaeromen wetem ol noes mo smok blong jenereta. Mifala i wantem setemap sola blong evri 30 hom long Rock Aelan wetem ol laet mo TV. Koperetiv i bin kolektem VT492,500 blong Projek mo i rikwestem narafala VT1,560,000 blong komplitim Projek .

Problem Stetmen: Naoia i nogat eni elektrik long Rock Aelan. Jenereta blong kavman i kam on long 6pm mo stop long 9pm. I mekem plante noes mo krietem plante smok. Ol student oli no save rid go kasem let taem blong finisim ol homwok blong olgeta. Ol man oli no save lesin long redio o TV nius long dei. Mo tu, kerosin laet oli stap kam denja tumas blong stap laet long naet. Fuel mo mantenens blong olfala jenereta i stap go moa ekspensiv. Samtaem fuel ino kasem long smol aelan long menland long taem.

Projek Gol: Blong provaedem wan frenli sos envaeromen blong elektrik long ol man blong Rock Aelan.

Projek Objektiv:

1. Pejesem 30 sola paoa sistem blong 50W wanwan wetem 3 laet.
2. Instolem 50W sola paoa sistem long evri 30 haos wetem help blong wan teknisian.
3. Trenem ol lokol man blong mantenem sola paoa sistem.

Projek Aotkam mo benefit:

Aotkam bambae hemi evri haos long Rock Aelan bambae i gat elektrik long sola we bambae oli save yusum sev long naet. Ol pikinini bambae oli benefit from bambae oli save ridim buk blong olgeta sev mo klia long naet. Ol man oli save lisen long ol impoten nius mo jajem ol telefon blong bambae ol man long menland oli save toktok wetem olgeta.

Plan blong Wok:

Tasks to do	Months											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Determine how much power is needed in one home												
Size the solar power system												
Make a list of components needed for the project												
Ask local companies for quotations												
Cooperative discusses and finalizes company to buy from												
Pay the company and ask them to visit the village												
Company technicians arrive and put dc lights in all houses												
Technicians mount the solar panel and othe things on houses												
Commissioning of solar power systems and ceremony												

(Fom blong tebol ya oli yusum plante – yu statem ol task mo kalarem ol manis we wok bae i hapen long hem – you save yusum wik o dei long ples blong manis)

Okanaesesan Ditel: Rock Aelan Koperetiv i lukaotem jenereta long aelan blong bambae evri haos oli gat laet long naet. Evri hed blong haoshol oli memba blong koperetiv. Sam taem i pas nomo we 10 man long koperetiv oli bin tren long saed blong Sola long Komuniti.

Badjet Brekdaon:

Aetem	Cost long wan Aetem (VT)	Kwaniti	Total Cost (VT)
50W sola PV panel	15,000	30	450,000
Jaja Kontrola 20A	9,000	30	270,000
Batri 30Ah	30,000	30	900,000
DC laet balb kit blong 3	2,000	30	60,000
Dabol Core 10A waea	180/m	500	94,500
Bot rent cost	20,000 per trip	4	80,000
Teknisian kost	8,000 /dei	20	160,000
Kakae mo ketaring kost	30,000/dei	1	30,000
Travel kost	2000/trip	4	8,000
Total Kost			2,052,500

Ol Not:

[illegible]

AKTIVITI 5

Tingbaot wan posibol riniwabol eneji Projek we i save tekem ples long komuniti blong yu mo krietem benefit long komuniti. Maet hemi eni samting long sola kasem haedro instolesen o eneji seving trening. Naoia tingbaot olsem wanem yu save faenem wan Projek. Long ol lis blong dona we yumi diskasem long trening, pikimap eniwan mo mekem daon draft proposol blong Projek. Hemia i save mekem long tim. Nating sipos yu no raetem daon ol proposol – raetem daon ol bulet poen

we i nidim blong adrese ananit long wanwan seksen blong proposol. Presentem hemia long toktok mo diskas long hem long foret blong ol man we oli givim trening.

Ansa: Ansa bambae i difren be oli mas traem blong satisfae evri poen we i stap long lis long seksen 5.3 antap. Maet oli nogat inaf infomesen, oli save kes long ol ditel olsem kost etc. Sampol proposal antap hemi olsem gaed long aktiviti ya.

Nem blong Projek:

Projek Lida:

Totol amaon we i rikwes:

Totol taemfrem blong Projek:

Samari:

Problem Stetmen:

Projek Gol:

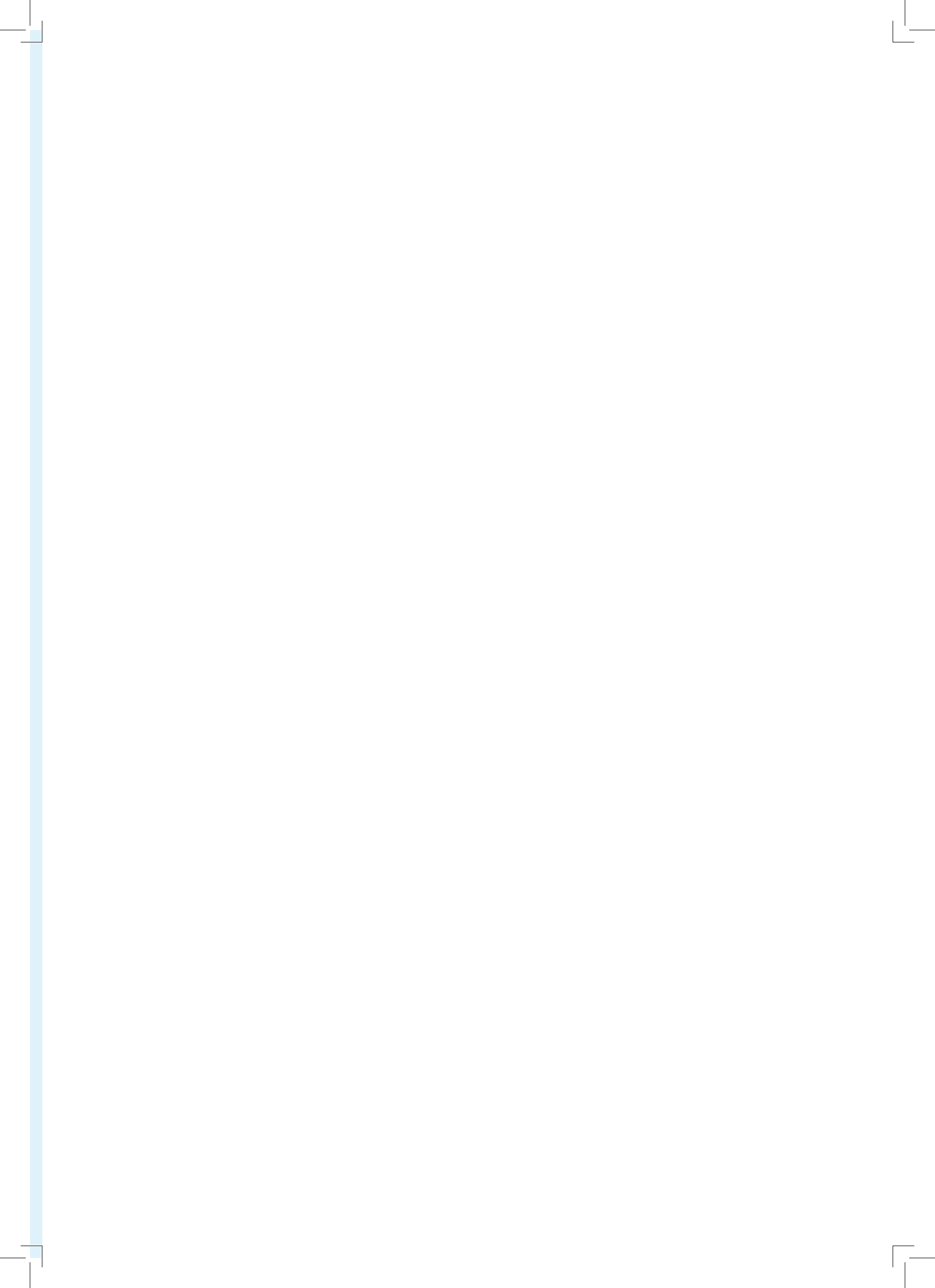
Projek Objektiv:

Projek Aotkam mo benefit:

Plan blong Wok:

Okanaesen Ditel:

Badjet Brekdaon:









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