



Modul 2 – Wokbuk bilong ol Sumatin

Beisik bilong Grin Bisnis

BILONG PAPUA NIUGINI

Halivim i kam long:

KOICA
Korea International
Cooperation Agency

Wokbung wantaim:



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Dispela **“Beisik bilong Grin Bisnis”** wokbuk em i skruim skul long ol modul long Grin Ekonomi – Sampela Het Tok na pasin bilong yusim liklik Eneji.

Long pinis bilong dispela kos, ol lain bilong lainim bai kisim save long ol dispela samting:

- Save long wanem samting em Grin Bisnis
- Painim aut ol as tingting bilong Grin Bisnis na ol samting i narapela kain namel long Grin Bisnis na Grin Wasim tingting Bisnis

- Painim aut ol rot bilong kamapim na ronim Grin Bisnis we i wok wantaim Grin Bisnis Modal
- Save long ol tingting na ol samting i save kamap long bisnis na ol wei bilong senisim ol samting i go Grin moa.

Lesen Plen

TEBOL 2: Lesen Plen

Sapta	Ol Lesen
Stat bilong Sesen	
1. Kirapim tingting	Skul tingting na wok 1
2. Ol Tingting bilong Grin Bisnis	Tingting
	Wok 2
3. Kamapim Grin Bisnis Modal: i go wantaim SDG Gol	Tingting
	Wok 3
4. Ol Tingting bilong Grin Bisnis	Tingting tasol
	Wok 4A
	Wok 4B
	Wok 4C
	Wok 4D
5. Wei bilong go het	Tingting
	Wok 5
Rol Plei 1	
Rol Plei 2	

Dispela Wokbuk (LW) i bin kam aut long wankain buk ol i kolim long Treinas Gaid (TG). Ol samting i stap insait long dispela LW ol i burukim go daun na putim wantaim na lukluk long ol piksa na ol wankain wok we i save mekim ol sumatin i stap insait na wantaim tisa long taim bilong skul. Sapos yu

laik kisim moa save long ol dispela samting, plis painim long wankain TG.

Kava piksa: Ol meri salim kaikai long peles maket. Sos: Benjamin Keni, GGGI PNG.

Toksave: Global Green Growth Institute i tokaut olsem ol toktok ol i mekim insait long hia, i no inap long kisim ol i go long kot, na bai yu tu i no inap long sutim tok long ol sapos ol man i yusim dispela long mekim ol samting long laik bilong ol yet, na kamapim ol birua. Olgeta toktok na piksa em bilong yu long lainim tasol, na i no bilong bagarap yu.

MEKIM OL TOK I SOT

°C	Degrees Celsius
CFL	Compact Fluorescent Lamp
CO ₂	Carbon Di Oxide
CSR	Corporate Social Responsibility
GB	Green Business
GE	Green Economy
GGGI	Global Green Growth Institute
HP	Horsepower
KOICA	Korea International Corporation Agency
KM	Kilometer
LED	Light Emitting Diode
LPG	Liquified Petroleum Gas
LPH	Liters per Hour
LW	Learner's Workbook
Mts	Minutes
MW	Mega Watts
NGO	Non-Governmental Organization
PAYG	Pay as you Grow
PIDF	Pacific Islands Development Forum
PNG	Papua New Guinea
RE	Renewable Sources of Energy
RO	Reverse Osmosis
USA	United States of America
TG	Trainer's Guide
TOT	Training of Trainer
TV	Television
V	Volts
W	Watts
WASH	Water Sanitation and Hygiene

GLOSERI - Mining Bilong Ol Toktok I Stap Insait Long Dispela Wokbuk

Bukiping: Bukiping em i wei bilong kipim rekot bilong kisim na salim moni insait long bisnis. Dispela em ol pases, ol sel, ol risip, na ol peimen wanpela man i mekim.

Koperet Sotel Responsibiliti: Koperet sotel responsibiliti em i wanpela kain intanesinol praivet bisnis we i save lukautim em yet na i save lukluk long halivim na sapotim ol gol bilong ol lain i save laik statim samting bilong halivim ol man meri.

Grin Bisnis: Sasteinabol bisnis, o grin bisnis, em i tingting we i save kamapim liklik bagarap o kamapim gutpela long globel o lokal envaironmen, komuniti, ples o ekonomi.

Grin wok: Ol Grinpela wok em ol gutpela wok we i save halivim long lukautim o mekim kamap gen envaironmen, long ol olupela wei olsem pasin bilong hatwok lo mekim kamap ol samting, o long niupela wei long wei bilong mekim samting olsem, riniuabel eneji na eneji ifisiensi.

Grin Was: Grinwasing, ol i save kolim tu olsem “grin sin” em wanpela kain wei bilong salim samting we grin PR na grin maket ol i yusim long giamanim ol manmeri olsem ol prodak, ol gol na ol rul bilong ol em i gutpela long envaironmen.

Maikrofainensin: Maikrofainensin, ol i save kolim tu olsem maikrokredit, em i wanpela kain sevis we benk i save givim long ol manmeri husait i no wok moni, o ol lain i save kisim liklik moni, o ol grup we ol i nogat narapela rot long kisim ol fainensal sevis.

Maikrogrid: Maikrogrid em i wanpela lokal eneji grid i gat save bilong kontrol, em i ken lusim olupela wei bilong mekim ol samting na wok em yet.

Nomol Grid: Elektrikol grid o pawa grid em i wanpela netwok we ol lain bilong mekim pawa, ol i save yusim bilong givim pawa i go long ol kastoma.

PAYG: (Baim na go). Man husait i laikim baioges em i putim moni bilong em long kisim. Dispela baioges ol i save makim gutpela bilong en long wanem kain eneji em i gat, na long wanwan mun yu bai baim hap moni. Na long taim yu baim pinisim lon na intres yusim dispela PAYG modal, dispela baioges plen em yu bai bosim nau.

1

Introdaksen/
Kirapim Tingting —————

WOK 1

Ol sumatin bai tokaut long ol yet na kolim nem bilong ol na givim sampela stori long ol yet – olsem, wanem samting ol bai wokim long dispela taim na wanem samting ol i laik kisim long dispela buk long pinis bilong dispela de. Sumatin i ken go moa na tokaut long save em i gat long grin bisnis, em i bin

bungim pinis, ol hevi, ol hop na ol tingting. Sapos igat taim, ol sumatin i ken toktok long wanem kain tingting em i gat long grin bisnis. Nogat ansa em i rait o rong, na gol bilong dispela wok em long mekim ol sumatin i no ken tingting planti na redi long lainim.

2

Beisik bilong
Grin Bisnis

2.1 Grin Bisnis em i wanem samting?

Grin bisnis em i toktok long sasteinabol bisnis we i no save bringim bagarap long ples graun o lenvaironmen, kominiti, ples o ekonomi. Grin bisnis i save bungim tripela lain, manmeri, mekim moni, na ples graun. Ol i kisim sapot long ol human rait polisi

PIKSA 1: Ol Grin Ekonomi Prinsipol¹



Well-Being: A green economy must create genuine, sustained, shared wellbeing, going beyond mere monetary wealth to prioritise human development, health, happiness, education, and community.



Justice: A green economy emphasises equity, equality, community cohesion, social justice, and supporting human rights - especially the rights of marginalised minorities. It seeks a just transition and serves the interests of all citizens, including those yet to be born.



Planetary Boundaries: A green economy recognizes that all human flourishing depends upon a healthy natural world. It defends nature's function and limits, and protects biodiversity, soil, water, air and other ecosystem capitals.



Efficiency & Sufficiency: A green economy is low-carbon, diverse and circular. It recognizss that our single biggest economic challenge is the need to create prosperity within planetary boundaries, and align economic incentives with true costs to the society.



Good Governance: A green economy builds institutions that combine dynamic democratic accountability, relevant metrics, sound science, and local knowledge. Civil life prioritises public participation, social dialogue, informed consent, transparency, and accountability.

2.2 Ol elemen bilong Grin Bisnis

Ol Grin bisnis i save putim ol sasteinabol o gutpela tingting i go insait long ol wok long menismen i go inap long sofwe. Ol grin bisnis husait i givim ol yet trutru ol i save mekim wok bilong was na lukluk long ol kain bikpela samting, na ol stronpela pipia we i save bringim bagarap, lukautim enaji na wara, na mekim ol samting niupela gen.

PIKSA 2: Ol samting we i save mekim kamap Grin Bisnis²



¹ Adapted from: Global Green Growth Institute, <http://gggi.org/site/assets/uploads/2019/06/5-principles-of-GE-One-Pager-250619.pdf>

² Adapted from "The Sustainable Business", Gordon Business, https://theecologist.org/sites/default/files/styles/inline_1/public/NG_media/113615.jpg?itok=DPeCGp6O

Piksa 2 em i givim ol elemen samting we i save mekim kamap grin bisnis. Ol dispela em:

- Bihainim ol gutpela wei bilong mekim bisnis. Baim na kisim gutpela metiriel we em i sasteinabol o gutpela (olsem, ol gutpela sid bilong agrikalsa, ol kaikai we i gro long graun)
- Klinpela na gutpela ples bilong wok (klinim haus, ol stoa, maket long sait bilong rot).
- Ol grin prodak em bikpela moni. Wanpela nomel lait bai yu baim long K20 na LED em i olsem K30. Ol grin prodak ol i gutpela moa. Olsem dispela piksa, taim yu yusim Lait Emiting Diiod (LED) ol kain lait em bai givim yu gutpela lait moa na halivim wok bilong yu kamap isi na yusim liklik pawa. Dispela em i wankain long yusim ol kerosin lam na ol nomel lait we ol i no givim gutpela lait tumas na ol i save kamapim nogut smuk na yusim moa eneji na moni long ronim.
- Usim klinpela wara em bai halivim laip bilong yu long daunim ol sik i save kamap long dirti wara.
- Dispela pasin bilong kamapim na mekim ol grin samting bai kamap long ol sasteinabol propit.

2.3 Grin Was

PIKSA 3: Wei na Tingting bilong Grinwas³



Grinwas em ol giaman toktok bilong mekim ol samting i go grin (Piksa 3). Man i save kamapim ol samting em i mekim dispela long salim prodak. Olsem dispela piksa, taim yu baim wanpela lait balp we ol i no kolim (Pilips) dispela lam bai bagarap hariap na tu, bai yusim planti pawa moa long wanem samting i stap long nem plet man i bin mekim i givim long en. Sampela piksa i wankain long kominiti em:

PIKSA 4: Eksampel bilong Grin Was⁴

The company imported several types of electrical appliances such as refrigerator units, air conditioning units and lighting units that are regulated by the act. However, the equipment and appliances were not initially registered especially the refrigerator units as required by the act. The company was issued a penalty notice that amounted up to VT 96,000 for which payment was done accordingly.

The refrigerators were imported directly from China and the models were not registered. Therefore, the company was required to provide test reports to prove that they comply with AS/NZ minimum energy efficiency standards and labelling requirements. The same has not been provided as of now.

Ol narapela piksa bilong grin was em:

- Ol kampani insait long ol divelop kantri i save salim pipia plastik igo long ol narapela liklik kantri we i daunbilo moa long ol, bai ol i ken wok long en.
- Ol soklet i save yusim kakau igat grin lebol. Dispela ol kakau i kamap long ol ples we ol i save yusim ol pikinini long kisim kakau. Dispela em i no grin.
- Klinim Wel Pam. Taim ol liklik pikinini ol i yusim ol long kisim ol sid bilong wel pam. Ol meri (sampela taim ol igat bel) na ol pikinini i save karim bikpela hevi – dispela em i no grin
- Ol kosmetik (sikin krim/sop/pinger polis/sempu) ol i kolim ol olsem ol samting i kam long graun. Igat ol narapela kemikal tu ol i yusim. Dispela ol piksa ol i yusim long tokaut moa long ol produk; ol meri i save sanap insait long kemikal hap longpela taim. Na, tu, long taim bilong kamapim prodak, planti ol samting ol i yusim i save bagarapim skin – dispela em i no grin.
- Ol kemikol ol i save yusim long lukautim kaikai long taim bilong kamapim/tinpis– dispela em i no grin

Ol narapela piksa bilong grin was em ol kampani insait long ol divalop kantri we ol i save salim pipia plastik i go long ol narapela divalop kantri we i daunbilo moa long ol bai ol i ken wok long en.

³ Adapted from the Green World Project Blog, <https://thegreenworldproject.com/blogs/news/greenwashing-and-6-toxic-ingredients-hiding-in-all-natural-products>

⁴ Source: Energy Newsletter, Vanuatu

Hap bilong rait:

WOK 2

Mak: Ol lida bilong LLG, Distrik, Taun, Provins na ol liklik bisnis.

1. Hau bai yu tokaut moa long grin bisnis long ples bilong yu?

2. Wanem em ol bikpela tingting bilong grin bisnis na hau bai yu wok i go long wankain samting ?

Mak: Kominiti bilong ples, ol lida bilong sios, ol meri, ol yangpela manmeri, ol singal mama, ol lapun na ol lain igat liklik bisnis.

1. Wanem samting em Grin Bisnis?

2. Wanem em ol bikpela tingting bilong grin bisnis?

3. Hau bai yu kirapim ol wei bilong mekim kominiti bilong yu kamap grin moa?

4. Wanem em i diferen namel long ol pipia we i save buruk na kamap graun na ol pipia we i no save buruk na kamap graun gen?

Mak: Ol lokal elektrisen, manmeri igat save long teknikol wok.

1. Hau bai yu yusim ol grin bisnis rul insait long wok bilong yu?

2. Hau bai yu mekim toksave klia moa olsem wanem long kominiti long ol man husait i save yusim ol sevis bilong yu long grin bisnis?

Mak: Ol Liklik Bisnis

1. Hau baiyu mekim bisnis bilong yu kamap grin moa?

2. Wanem sampela ol Grin Prektis yu inap long bihainim?

3

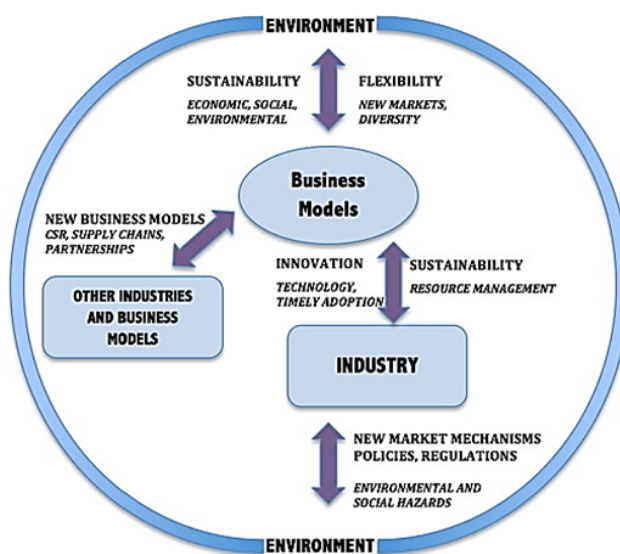
Kamapim Grin
Bisnis Modal: Igo
wantaim SDG Gol



3.1 Kamapim na Ronim wanpela Grin Bisnis Modal

Dispela bisnis modal bilong kamapim na ronim grin bisnis em i wankain tasol olsem ol narapela bisnis. Prodak bilong en i mas 'Grin' (gutpela long envaironmen, i ken kamap niupela gen na save usim liklik enaji). Piksa 5 daunbilo em i givim dispela ol tingting. Dispela em i givim wanpela bisnis modal. Ol tingting i go wantaim kominiti ol i mekim klia moa.

PIKSA 5: Bikpela lukluk bilong Grin Bisnis⁵



3.2 Bisnis Modal bilong Kominiti

Grin samting i mas toktok long pasin bilong lukautim ol samting, i mas redi long ron wantaim ol senis i wok long kamap, na i mas mekim kamap niupela ol samting. Ol prodak ol i makim i mas i gat veliu, i mas savim eneji, inap long baim na i mas orait. Planti ol samting ol meri long kominiti i save mekim long han (ol paus, ol kolos, ol basket). Dispela ol i save yusim ol local prodak i stap long kominiti. Wanpela tingting bilong PNG gavman long dispela em, ol Meri insait long Bisnis Ples na ol narapela liklik Midium Entaprais we ol lokal i bosim na ronim.

Dispela i save givim skul, makim ol gutpela niupela metiriel na tu lukim olsem prodak i gutpela moa. Na tu, ol i mas lukim olsem moni mak bilong salim ol prodak em i orait. Ol tu, ol i mas lukim olsem karamap bilong ol prodak i no stap long plastik.

Dispela maket i mas kamap wantaim ol niupela tingting (piksa em ol sola lait wantaim ol kain prodak, sasim mobail olsem rot bilong kisim moni, salim wara bilong dring, ol samting ol i mekim long han na sampela moa.)

PIKSA 6: Ko-Operativ Modal⁶



⁵ Adapted from Science Direct "Emergence of Green Business models: The case of algae biofuel for aviation", February 2014, <https://doi.org/10.1016/j.enpol.2013.10.034>

⁶ Adapted from training materials of the Cooperative College of Fiji

Wanpela long ol bisnis modal ol i makim em 'Kopereitiv Modal'. Dispela i ken wok long hap bilong salim pis, ol stoa bilong gaden kaikai, ol kol stoa na sampela moa. Ol man i gat wankain tingting (ol man, ol meri na ol narapela grup) i save bung na kamapim koopereitiv. Dispela ol i mekim i go wantaim ol kopereitiv lo bilong kantri. Kopereitiv i putim sampela moni, na narapela hap bilong moni benk i putim. Ol moni i kamap ol i save serim bihain long peimen bilong lon, long wanwan yia. I gat bung ol i save holim bilong stretim ol kain hevi i save kamap.

Membasip bilong dispela i nogat pei, na ol bung i save kamap na ol i save kisim tingting bilong olgeta lain bilong stretim ol hevi. Dispela i gat wokbung wantaim bilong mekim moni we olgeta memba i serim sait bilong yusim moni long baim samting na tu ol propit.

PIKSA 7: Ol Prinsipol bilong Kopereitiv⁷



Hap bilong rait:

⁷ Adapted from training materials of the Cooperative College of Fiji

WOK 3

Olgeta grup bilong makim

1. Wanem ol sampela gutpela tingting bilong kamapim grin bisnis insait long kominiti bilong yu?

4

Ol Grin Bisnis
Tingting



Ol dispela i go wantaim ol SDG gol

4.1 Ol samting i kamap long Kominiti long dispela taim nau

Pasin yumi wokim Nau	Ol gutpela pasin yumi mas bihainim
Kuk abrusim mak – save kamapim simuk – ol sik insait long bodi – ol risos olsem paiawut bai pinis hariap.	Yusim Eneji Ifsient Stov – Yumi i bin lukim long modul namba 2 ol as tingting bilong eneji ifsiensi. Kominiti nogut bai no inap long baim ol eneji ifsient stov. Olsem na, gavman/NGO i mas kamap wantaim ol tingting bilong kirapim na mekim niupela samting bilong halivim na bringim gutpela sidaun long ol manmeri.
Wara – Ol sos bilong wara, hul wara na graun. Ino klin na ino gutpela long dring na bilong kuk – i save kamapim planti ol sik we ikam long wara.	Yusim klinpela wara bilong dring. Sekim olsem yu karamapim gut ol samting bilong putim wara, long mekim em i stap klin na seif (na i no ples bilong kamapim ol moskito).Yu mas boilim wara bipo yu dring.
Tromoi pipia klostu lo haus, nogat gutpela hap bilong putim ol pipia.	Rausim pipia, gat gutpela hap bilong putim pipia na kamapim ol niupela gen. Yusim hul long graun bilong tanim ol pipia i kamap graun gen na yusim olsem fetelaia.
Pipia bilong Agrikalsa – kukim bus i save mekim planti simuk	Rausim gut pipia long pasin bilong tanim ol i kamap graun gen.
Yusim ol kerosin lam na kendol – i no save givim gutpela lait, mekim planti simuk na i no save stap longpela taim.	Senis i go long yusim ol sola haus lait sistem – Ol i bin tokaut klia pinis long en long Riniuabol Eneji Modul

4.2 Ol Grin Bisnis Inisitiv – Fiul na Elektrisiti

Lukluk bilong dispela taim nau

Planti long ol kominiti ol i no yusim grid pawa. Ol i save yusim ol kerosin lam, ol tos i save wok long bateri, sola o ol lait sistem bilong haus.

PIKSA 8: Nomol Pawa lain⁸



⁸ Source: UMLAUT, https://www.umlaut.com/uploads/images/stories/1024x768_crop_center-center_none/iStock-661805558_web.jpg

Tingting bilong bihainim

PIKSA 9: Maikrogrid⁹

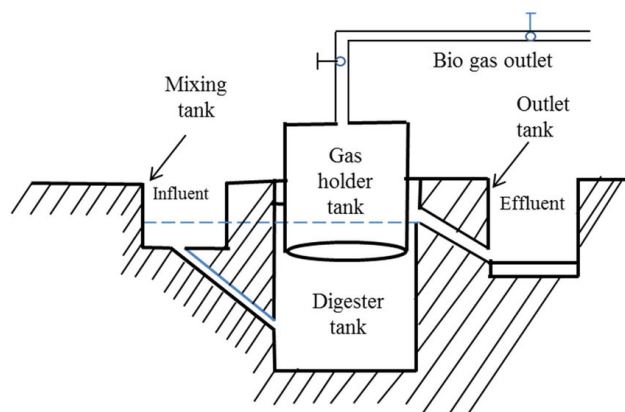
Dispela piksa antap em i soim maikrogrid. Dispela sola pawa em i bikipela na inap long givim pawa i go long planti haus long kominiti. Ol haus long kominiti bai baim pawa ol i yusim – long wanpela mak ol i putim o long mak i satp long mita.

Ol Baiomes Pelet

Paiauwut na planti long ol narapela baiomes, (so das, Agripipia) das bilong ol em i liklik tru. Dispela em ol sos bilong baiomes we ol i save kuk hariap na mekim gutpela sit bilong paia. Dispela ol das ol i ken putim long masin na kamapim ol pellet (Piksa 10). Dispela em bai kuk gut moa, stap longpela taim na daunim simuk na sampela moa.

PIKSA 10: Ol Baiomes Pelet¹⁰

Ol Baio-Ges Plen

PIKSA 11: BaioGES Plen¹¹PIKSA 12: Soim hau ol i save mekim BaioGES¹²

Sampela Tingting bilong mekim:

- Pipia bilong agrikalsa, pipia bilong kaikai bilong gaden na pipia bilong wel abus i save pinis na tanim i kamap graun taim yu tromoi ol. Dispela yu ken mekim i kamap fetelaia long taim yu yusim ol wei bilong tanim ol kamap graun. Dispela ol pipia ol i kolim ol ogenik. I gat enei i stap insait long dispela ogenik pipia.
- Dispela rot bilong daunim ol pipia, em i save kamapim bioges. I gat ol binatang i save stap long hap we i nogat win, ol i kolim aneirobik. Dispela ol binatang i save yusim pipia olsem kaikai bilong ol na insait long dispela rot, baioGES i save kamap. Dispela baioGES em i pulap wantaim Metein. Na narapela ol ges i stap tu em, Carbon Di Oxide (CO₂) na Hydrogen Sulfide (H₂S)
- Long tanim pipia i kamap graun gen, gutpela mak bilong ful em i lus long wanem pipia ol i yusim long wok agrikalsa. Tasol, insait long baioGES plen, ful (em i BaioGES) em i kamap.
- Gutpela pipia em i save kam insait. Dispela pipia ol i save tanim wantaim wara.
- Dispela i save ron i go long wanpela tenk. Ol binatang i stap long dispela tenk i save kamapim ges. Dispela ges ol i save kisim insait long samting bilong holim ges. Dispela samting bilong holim ges, em i save suruk i go antap na i go daun. Dispela pipia we i save kam aut long dispela tenk

⁹ Saur Energy, <https://www.google.com/search?q=%3B+https%3A%2F%2Fwww.saurenergy.com%2Fsolar-energy-articles%2Fmissing-the-sunshine-mini-grids-in-india&rlz=>

¹⁰ Source: DH Gate, <https://www.dhresource.com/0x0/f2/albu/g17/M01/2B/D9/rBVa4mAL44eAfRo2AANK-6hnTI8598.jpg/electrical-poultry-chicken-fish-feed-pellet.jpg>

¹¹ Source: Fiji Department of Energy

¹² Research Gate, "Economics of Biogas plants and solar home systems: For household energy applications", June 2017, https://www.researchgate.net/figure/Simple-schematic-of-a-biogas-plant_fig3_318503013

em i pulap tru long gutpela fetetaisa na ol i save kisim long tenk bilong go aut. Dispela ges i stap long samting bilong holim ges, ol i save salim i go long paip long hausuk, bilong kuk o ol lait o long ronim ges enjin bilong kamapim pawa.

- Sais bilong baioges plen em i ken liklik bilong wanpela femili o bikpela bilong wanpela kominiti.
- Dispela bisnis em i mas sanap em yet we man bilong givim moni em i ken putim moni long plen, em i ken wok na i ken lukautim. Em i ken givim sas long dispela Baioges.
- Dispela ol i ken yusim long givim lait na tu, long mekim ol enjin i ron na i no bilong yusim olsem fiul tasol.

Stov we i yusim liklik Fiul

Dispela ol i bin mekim klia pinis insait long ol tingting i stap long Eneji Ifisiensi modal. Narapela modal bilong stov bilong kuk (Piksa 13) ol i soim daunbilo.

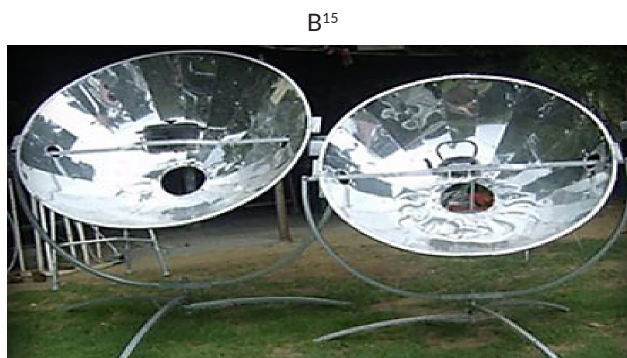
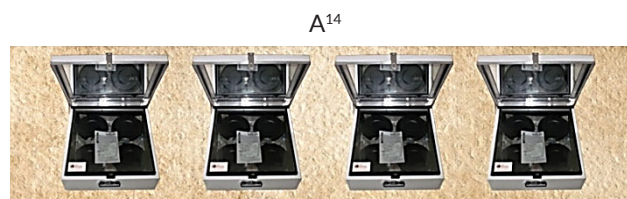
PIKSA 13: Stov we i yusim liklik Fiul¹³



Kuk long Sola:

I gat tupela rot long sola eneji - "sola fotovoltetik" na "sola temal". Dispela fotovoltetik rot i save kamapim pawa na dispela teminal rot em i bilong givim hat. Dispela sola teminal rot ol i save yusim bilong kuk, piksa em, i gat ol bikpela sola stov we ol save yusim long kukim planti rais tru.

PIKSA 14: Ol Sola Kuka



I gat tupela kain ol kuka we ol i soim antap. Piksa 14A em wanpela kuka i olsem bokis. Dispela bokis taim ol i opim em i save kisim sola. Em i save kamapim lait bilong san long dispela pot ol i putim insait long bokis. Dispela bokis ol i ken pasim bihain long ol i kuk pinis. Piksa 14B, em i wanpela parabolik kolekta we i save kamapim lait bilong san antap long pot.

4.3 Ol Grin Bisnis Inisitiv bilong Wara

Dispela em i wanpela long ol bikpela tingting bilong ol wei bilong mekim ol samting i go grin moa. Long dispela taim nau, wara (long antap na graun wara) ol i kisim em i no kiln tumas. Piksa 15 em i soim sampela long ol tingting ol i mekim kamap long Keapara Ples, long Central Provins, PNG.

¹³ Picture adopted from Solar Solutions PNG website. Available online: <https://www.solarsolutionspng.com/galleries/>

¹⁴ Rudra Solar Energy, "Solar Cookers", <https://www.rudrasolarenergy.com/solar-cookers.html>

¹⁵ Olympus Flower, "Solar Cookers", http://www.solar-cookers-rocket-stoves.co.za/ol_images/ray_solar_cooker.jpg

PIKSA 15: Yusim Wara – Long Dispela Taim Nau¹⁶



PIKSA 16: Ol Graun bilong Agrikalsa i drai pinis¹⁷



Piksa 16 em i soim ol ples bilong planim kaikai ol i drai. Taim yu i no lukautim gut ol risos bilong wara, dispela em i save bagarapim save bilong ol man long planim ol kaikai na givim kaikai long ol femili bilong ol.

Ol Tingting bilong Klinpela Wara

Wara ol i mas pulumapim, klinim gut na bihain ol lain i ken yusim, na i gat sans tu long kisim renwara. Na olsem wanpela hap bilong Water Sanitation and Hygiene (WASH) projek, Fiji, Vanuatu, na ol narapela kantri i bin kamapim ol wei bilong stretim saplai na lukaut bilong wara. Dispela em i wanpela Sasteinabol Divalopmen Gol we em i tokaut moa long pasin bilong stap klin na yusim klinpela wara. Sampela niupela wei bilong mekim kamap samting em:

PIKSA 17: Kisim Renwara¹⁸



- I. Kisim Renwara – dispela em i renwara yu kisim long ruf bilong haus taim ren em i pundaun na i pulumapim tenk.

PIKSA 18: Wara Sistem we i save yusim stronpela fos Greviti¹⁹



- II. Wara Sistem we i save yusim Greviti – dispela em i save karim gut wara, long wanpela hap we i save lukautim na holim wara gut, planti taim i save kamap daunbilo long wara, long liklik wara, o long hul wara. Dispela em i save ron i go insait long tenk wara bilong kominiti. Na long tenk wara bilong kominiti, em i save ron long ol paip i go long ol haus.

¹⁶ Photo Credit: Benjamin Keni, GGGI – Papua New Guinea

¹⁷ Source: Jae C. Hong, Business Insider Australia, <https://www.businessinsider.com.au/nasa-data-shows-the-world-is-running-out-of-water-2015-6>

¹⁸ Photo Credit: Benjamin Keni, GGGI -Papua New Guinea

¹⁹ Rotary Pacific Water, <https://www.rotarypacificwater.org/>

Narapela wei em long mekim bikipela hul long graun, na kisim wara antap yusim wanpela pam bilong wara we i save wok long sola, na ol i mas klinim gut bipo long yusim.

PIKSA 19: Ol Sistem bilong Klinim Wara²⁰



Dispela wara ol i kisim long ol dispela sos ol i soim antap, ol i save klinim long wanpela baio sen filtreisen sistem (Piksa 19). Ol tenk insait long dispela piksa, ol i pulumapim wantaim wesan, kabon na ol narapela metiriel bilong klinim wara. Dispela wara em bai i kamap klin bilong yusim.

Ol Tingting bilong Liklik Skeil Wara

PIKSA 20: Wara Filta – Liklik Sais²¹



Dispela em i wanpela gutpela samting long putim long ol stoa insait long kominiti. Dispela wara filta em i save givim wara em i klin na i gutpela tru. Dispela wara ol i ken salim long gutpela prais. Na long ol lain husait i gat inap, ol i ken baim dispela wara filta.

4.4 Ol Grin Bisnis Pasin– Risaiklin bilong Pipia

Ol haus, ol maket, ol skul, na ples bilong lotu i save kamapim pipia insait long kominiti. Tasol ol pipia we i save kamap, em i liklik na i no olsem long ol hap i stap long taun/hap klostu long taun/ol hap long ples, em i gutpela moa long ol dispela pipia ol i mas stretim long gutpela rot.

PIKSA 21: Kamap bilong Pipia²²



Na hap toktok ol i save mekim long ol tingting bilong mekim ol samting i go grin moa em **'Welt from Weist'**. Dispela tingting bilong **Ridus, Riyus** na **Risaikol (3Rs)** i mas i stap.

Pepa ol i save wokim niupela gen

I gat planti pipia pepa we i save kamap. Dispela i save kamap long ol nius pepa, hap bilong pekim ol samting, ol katbot, steisenari na sampela moa gen. Dispela ol i ken skelim na salim i go long ol lain husait i save mekim pepa i kamap niupela gen.

²⁰ Rotary Pacific Water, <https://www.rotarypacificwater.org/>

²¹ Price.com, <https://price.com/pureit-ultima-mineral-water-purifier-price-in-india-36139>

²² Dreamstime.com, "Garden compost heap", <https://www.dreamstime.com/stock-photo-compost-heap-garden-kitchen-food-waste-vegetables-fruit-peel-green-refuse-image68229062>

PIKSA 22: Wok bilong kamapim niupela pepa

A²³



B²⁴



PIKSA 23: Pepa i kam long Pipia bilong Banana – Vanuatu²⁵



Mekim Ain i kamap Niupela gen

Dispela ain ol i save kisim, skelim (Piksa 24A), na kisim i go long strongpela paia (Piksa 24B) na tanim i go long ain wara bilong mekim sampela moa wok long en.

PIKSA 24: Wok bilong Mekim Ain

A²⁶



B²⁷



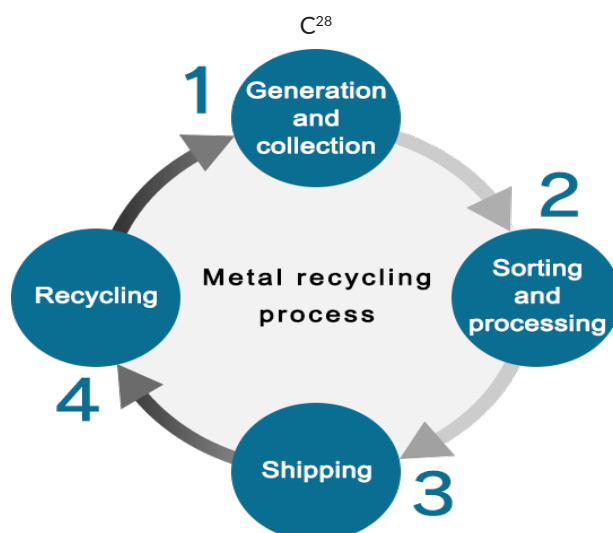
23 South Pacific Waste Recyclers, "Reducing Waste", <http://www.southpacificwasterecyclers.com/fj/our-product/>

24 South Pacific Waste Recyclers, "Reducing Waste and Our Product", <http://www.southpacificwasterecyclers.com/fj/our-product/>

25 Green Banana Paper, <https://greenbananapaper.com/>

26 Source: wmmetalsandalloys.com, "Different types of scrap metal", <https://wmmetalsandalloys.com/wp-content/uploads/2020/02/stainless-1080x675.jpg>

27 Source: Shutterstock.com, "Converter filling scrap", <https://www.shutterstock.com/image-photo/tangshan-june-18-converter-filling-scrap-213902791>



Dispela pipia bilong kominiti ol I save skelim i go long ain (ol ken, ol tin). Dispela ol i save kisim na givim i go long lain husait i save baim pipia ain. Dispela ol lain i save mekim i kamap niupela gen taim ol i kukim. Bihain ol i save stretim ol gut na salim.

Tromoi Plastik

Long ples graun olgeta, dispela em i wanpela long ol bikpela hevi. Pasin bilong yusim plastik long pekim ol samting em i abrusim mak tru. Planti long ol kantri wantaim PNG, ol i pasim pinis pasin bilong yusim plastik.

PIKSA 25: Ol Plastik na ol Samting we i ken kisim ples bilong plastik²⁹



Ol plastik, taim ol i tromoi long nesural environmen, i save kisim planti krismas tru long ol long pinis na long dispela taim, em i save bagarapim planti ol kain enimal laip olsem ol samting i stap laip long solwara.

Mekim niupela Pipia Plastik:

PIKSA 26: Mekim niupela Pipia Plastik³⁰



Igat ol niupela masin i stap nau bilong brukim ol pipia plastik i go liklik olgeta bilong mekim kamap ol niupela samting olsem, ol botol, ol spun na ol plet. Igat ol narapela tingting tu i stap we, ol kastoma i ken salim ol plastik botol na kisim moni, long halivim wok bilong mekim kamap ol niupela samting.

²⁸ Shin-ei holdings co.ltd, <https://www.shineikinzoku.co.jp/en/recycle/>

²⁹ Adapted from the Marine Conservation Society Twitter; <https://twitter.com/mcsuk/status/1034524796032360453?lang=ca>

³⁰ Source: Shutterstock, adapted from theconservation.com, <https://theconversation.com/the-major-source-of-ocean-plastic-pollution-youve-probably-never-heard-of-111687>

4.5 Ol Pasin bilong Grin Bisnis - Agrikalsa

Ol wok bilong agrikalsa long nau na sampela tingting bilong bihainim long Grin Bisnis

TEBOL 3: Ol wok bilong mekim long kamap Grin moa - Agrikalsa

Pasin Bilong Nau	Pasin yumi mas Bihainim
Planim wankain kaikai olgeta taim (rais, wit, ol kaikai bilong gaden). Planim wankain kaikai long wanpela hap tasol long planti yia i save pinisim gris bilong graun.	Senisim ol kaikai bilong planim. Dispela we i ken halivim ol manmeri, na tu, bai ol i ken salim long maket. Planim rais pastaim, bihain ol narapela kaikai na bihain planim rais gen. Krop roteisen em i wok bilong planim ol kainkain kaikai, insait long ol mun bilong planim kaikai long wanpela hap tasol. Dispela bai daunim pasin bilong pisinim gris bilong graun, ol wari bilong ol binatang na ol liklik bus, na i ken pasim ol binatang na ol bus long kamap.
Ples kokonas/Banana oltaim.	Bihainim pasin bilong planim tupela o moa kaikai long wanpela hap long wankain taim tasol. Givim inap mak namel long kokonas diwai/banana diwai. Yusim hap namel long tupela bilong planim ol kumu. Intakroping em i pasin bilong planim tupela o moa kaikai long wanpela hap long wankain taim tasol. Gol bilong intakroping em long kamapim planti kaikai moa long wanpela hap graun tasol, na long yusim ol resos o ol nesural wei we wanpela kaikai tasol i no inap long yusim.
Nogat gutpela plen bilong yusim wara	Bihainim drip irigeisen. Em i no gutpela bilong ol liklik fama. Invesmen i mas kamap. Drip irigeisen em i wanpela kain maikro-irigeisen sistem we i ken savim wara na ol gris bilong graun long mekim wara i pundaun isi isi i go long ol rut bilong ol plent, long antap long graun o daunbilo long graun. Gol bilong dispela em long putim wara i go stret long hap we rut i stap, na daunim ol samting long pinis.
Yusim fetelaisa i gat marasin na marasin bilong kilim binatang	Yusim ol ogenik fetelaisa (ol i soim daunbilo) na ol marasin bilong kilim binatang (nim pauda)

Ogenik Fetelaisa

Ol samting i save kam aut long baioges plen/komposin plen em ogenik fetelaisa. Dispela em i gutpela moa long fetelaisa we igat marasin long en. Ol samting i save kamap long ogenik fetelaisa ol i gutpela maket veliu na prais.

PIKSA 27: Ol Agriprodak – Yusim Ogenik Fetelaisa³¹



4.5 Sasteinabol wei bilong Painim Pis / Kaikai bilong Solwara

Ol rot bilong painim pis long wara na long solwara, sampela taim ol i save yusim ol wei we em i no gutpela long gro bilong pis/siwit na sampela moa. Dispela em:

31 Slideshare.net, Slide 44 of "Kiribati Agritourism Policy Setting Workshop 2019", <https://www.slideshare.net/brusselsbriefings/kiribati-agritourism-policy-setting-workshop-2019-agricultural-valuechain-guide-for-the-pacific-islands>

TEBOL 4: Ol samting we i soim Grin – Fisaris/Kaikai bilong Solwara/Ol samting i stap long wara

Ol Pasin i wok long kamap long dispela taim nau	Ol niupela na gutpela Pasin yumi mas behainim
Tromoi ol pipia i go insait long wara/solwara/ol nambis na sampela moa.	Noken tromoi pipia i go insait long solwara/long nambis/ wara na sampela moa. Kamapim wanpela grup bilong wok long klinim ol nambis/ol wara, wanpela taim long wanpela mun.
Yusim Dainamat ol i save pulumapim long ol botol long kisim pis. Dispela pasin bilong yusim dainamat na ol narapela samting i save pairap bilong kisim pis, em i save kamap long olgeta tropical Pasifik, we em i rong tru. Painim pis wantaim dainamat i save laip bilong ol koral. Maski liklik hap bilong dainamat em i pairap, em i ken mekim wanpela hul i olsem tupelo o tripela fit. Dispela pairap em i save kilim ol mit bilong koral na em i save pasim ol koral long gro gen.	Sasteinabol sifud em i kaikai bilong solwara we ol i save ketsim o ol i lukautim long fam, long ol wei ol i lukim bilong kisim pis longpela taim na gutpela bilong solwara, na tu, gutpela bilong ol lain i save painim pis we ol i stap insait long ol kominiti. Long stop long painim pis wantaim dainamat. Ol ples i mas stap was na lukluk long ol wok bilong painim pis we em i no stretpela. Long givim skul na ol meteriel long ol lokal univesiti na strongim ol wok bilong sapotim na lukautim laip insait long solwara, baim ol liklik wara sistem we ol i ken givim i go long ol lokal kominiti we i soim wok bilong stopim pasin bilong yusim dainamat long painim pis.
Wel i save kapsait (lube wel, fiul) insait long solwara/wara	Mekim papa bilong bot o sip i mas mekim wok bilong klinim pipia ol i kamapim
Kaikai bilong Solwara / fisaris saplai sen menismen	Dispela bikpela ol stoa bilong kaikai bilong solwara, ol bren, na ol fudsevis kampani ol i wok long senisim ol globel saplai sen bilong ol na ronim ol wok bilong mekim kamap gen namba bilong ol pis, daunim ol bagarap i save kamap long sait bilong painim pis na lukautim pis, na lukim olsem i gat ol sans bilong sasteinim ekonomi long ol kominiti long ples graun olgeta long pasin bilong painim pis. Dispela ol samting ol i mas mekim insait long kominiti.

4.6 Ol Tingting bilong mekim kamap ol samting i go Grin moa na ol Narapela gutpela Pasin.

Mekim Bateri i kamap niupela gen:

PIKSA 28: Mekim Bateri i kamap niupela gen



32



33

32 Photo credit: Benjamin Keni, GGGI – Papua New Guinea

33 City of Fort Wayne, <https://www.cityoffortwayne.org/images/stories/batteriesmg.jp>

Taim ol bateri ol i no putim ol gut long bokis, ol i ken buruk na dispela ol kemikel nogut i stap insait em i ken bagarapim envaironmen. Insait long planti long ol narapela kantri, ol i save givim niupela bateri tasol taim olpela ol i bringim i go bek long distribiuta.

Pekim ol samting

I gat sampela ol wei bilong pekim ol samting em i stap pinis. We i gat sans em i stap, em i gutpela moa long yusim save bilong taim bipo long kamapim ol wei bilong yusim plastik long pekim ol samting.

PIKSA 29: Pekim ol samting – Em i stap pinis long ples³⁴



Piksa 29 antap em i soim ol lip banana ol i save yusim, na basket ol save yusim long ples. Dispela em i gutpela wei tru long pekim ol samting. Wampela hevi tasol em long mekim ol i luk gut moa long ol lain bilong yusim.

PIKSA 30: Pekim ol samting i stap pinis long Ples³⁵

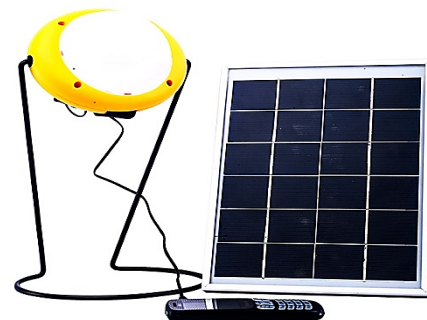
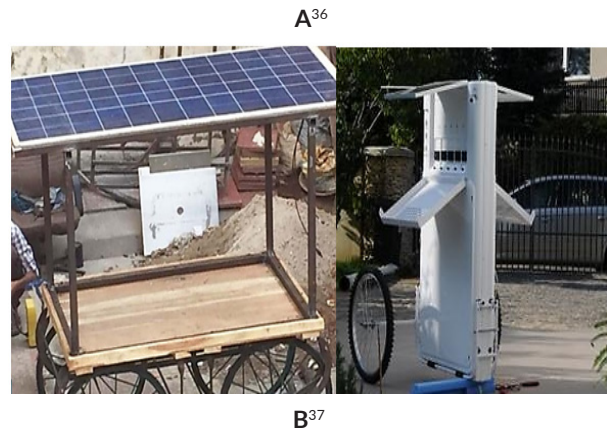


Piksa 30A em i soim ol pepa bek na ol basket ol i mekim long ples na Piksa 30B em i soim ol kap ol i save yusim bilong ti na kopi.

Ol samting i wok long Sola

Wampela long ol nid bilong dispela taim nau em, sasim mobail fon. Sola mobail sas em i gutpela tru long putim long ol maket long ples. Piksa 31A na Piksa 31B daunbilo em i soim ol mobail sas long sola enejji.

PIKSA 31: Sasim Mobail long Sola



Ol dispela em ol i gutpela tru long ol wok bilong grin bisnis bilong ol lokal meri, grosas, na ol kaikai long sait maket. Maikrofainensin em i ken mekim i kamap.

³⁴ Adapted from Pacific Greenpreneurs: Jump starting green businesses in Fiji, Vanuatu and Kiribati", https://www.aptc.edu.au/docs/default-source/default-document-library/djsyi_christopher_and_katerina_min.pdf?sfvrsn=b620dc14_4

³⁵ Source: Projectunify.net, "Say no to plastic bags", <https://www.projectunify.net/say-no-to-plastic-bags/>

³⁶ Source: Indiamart.com, "Community solar mobile charging station", <https://www.indiamart.com/proddetail/community-solar-mobile-charging-station-7163127873.html>

³⁷ Source: Indiamart.com, "Solar Emergency Portable Led light", <https://www.indiamart.com/proddetail/sun-king-pro-400-solar-emergency-portable-led-light-with-usb-mobile-charging-17407429648.html>

PIKSA 32: Kukim Kon long Sola³⁸

Dispela em i wanpela piksa tasol. I mas i gat ol lokal prodak / ol tingting i mas stap

Sola bilong Draim Pis

Wanpela wei i ken kamap em long olgeta kantri ol i gat kaikai bilong solwara na drai pis.

PIKSA 33: Draim Pis yusim Sola³⁹

Sistem bilong draim pis (o ol narapela samting bilong kaikai) yusim sola eneji. Long ol de we ples em i san, ol i ken draim pis yusim sola eneji na long taim ples em i kilaut/ren na sola pawa i no strong, LPG bekap system em bai givim hat we ol i nidim long dispela taim. Dispela sistem em i ken draim gut ol kaikai we ol i gutpela tru na mekim ol i stap long gutpela mak, na ol no inap long bagarap hariap.

PIKSA 34: Sola Agrikalsa Draia⁴⁰

Dispela tingting bilong sola draia ol i ken yusim long draim ol narapela samting tu (sili/kopra/lip brus). Piksa 34 em i soim wanpela draia. Sola eneji i save mekim win insait long rum i kamap hat na dispela i save draim ol kaikai. Ol i ken draim ol narapela kain prodak tu, dipen tasol long wanem taim bilong kamapim ol dispela kaikai.

Ol Kol Rum - bilong Sola

Pis, kaikai bilong gaden, abus na ol narapela prodak i save bagarap nating long wanem i nogat ol kol stoa. Wanpela gutpela tingting long mekim em long putim kol stoa insait long kominiti (Piksa 35). Bai i mas igat tupela sistem, wanpela bilong ol kaikai bilong gaden na narapela bilong ol mit, kakaruk, ol kiau na pis.

PIKSA 35: Sola Kol Stoa⁴¹

38 Source: India content.in "Solar power fan to grill corn", https://www.indiacontent.in/bengaluru--75-year-old-selvamma-who-has-been-selling-corn-outside-vidhana-soudha/pr-783895/?utm_source=recengine&utm_medium=WEB&referral_sourceid=783954

39 SlideShare, <https://www.slideshare.net/upamadas/dynamics-of-development-in-fish-processing-sector-72216570>

40 Indiamart.com, <https://www.indiamart.com/radha-energycell/solar-dryers.html>

41 Greenpowerco.com.au/Eco frost

Fisaris – Piko haidro Tel Reis:

Narapela samting long sola pawa, ol kominiti i ken lukluk long ol Piko haidro plen. Dispela wara bilong Piko haidro pawa plen ol i save kolim olsem tel reis. Wapela piksa ol i soim daunbilo (Piksa 36) em bilong kamapim pis insait long Vanuatu.

PIKSA 36: Fisaris – Piko Haidro Teil Reis Vanuatu⁴²

In Loltong village, a potential site for a pico-hydro PV hybrid mini-grid, the women are using waste water from the tailrace to construct fish ponds and raise tilapia fish. The first sale of tilapia fish raised over USD\$200 (Vt20, 000). Their newfound source of electricity will ensure that the fish ponds are well-aerated and there is enough electricity to power their fridges for preserving fish.

Ol samting ol i wokim long han

Ol kominiti long ples ol i save gut tru long pasin bilong mekim ol samting long han. Sampela long ol prodak, ol piksa daunbilo i soim.

PIKSA 37: Ol piksa bilong ol samting ol i wokim long han



43



44

Olgeta long ol samting i save kamap niupela gen we i stap long ol piksa antap, i save daunim mak bilong ol pipia long kamap planti moa, na tu, senisim ol plastik samting.

Ol Bus na Mangoro

Wapela long ol tingting bilong komasel forestri em i wok bilong planim mambu, diwai na mangoro.

PIKSA 38: Haus Mambu na ol sia na tebol⁴⁵



Ol Mangoro

Ol wei na tingting bilong lukautim ol mangoro, ol i mekim kamap long olgeta ol Pasifik Ailan kantri wantaim PNG, long wanem ol gutpela halivim ol mangoro i save givim.

42 Newsletter, Department of Energy, Vanuatu, https://lh3.googleusercontent.com/9AVVVVISHiEW2l0kLgSHvYc0BMnduj_CnC1ymp_h_Y5Qce1RW0LTAE0Vyk5HCu9Eg92=1-s170

43 Rawfiji.com, "Women weaving, Rise beyond the reef", <https://rawfiji.com/blog/2016/07/13/rise-beyond-the-reef/>

44 Photo credit: Kristin Deason, GGGI

45 Source: Pinterest, adapted from Airbnb.com, <https://www.pinterest.co.kr/pin/465911523924319522/>

PIKSA 39: Pasin bilong planim Mangoro

A⁴⁶B⁴⁷

Ol mangoro i save lukautim nambis long ol bikpela win, ol bikpela solwara na ol tait wara. Ol mangoro tu i save halivim long pasim erosen long kamap we ol rop bilong en i save holim ol graun na ston wantaim. Ol i save mekim wara i stap kiln na kliā, na pasim ol pipia i save kam long graun.

Ol i kamap olsem ples bilong lukautim planti bilong ol samting i stap laip long solwara. Ol i save givim nesural wok bilong pasim ol bagarap i save kamap long senis bilong klaimet, na halivim long daunim bagarap insait long solwara.

46 Photo Credit: Benjamin Keni, GGGI – Papua New Guinea

47 Adapted from <http://mangrovesforfiji.com/>

WOK 4A

Mak: Olgeta Grup bilong Makim

1. Wanem sampela long ol pasin kominiti i save mekim i no gutpela, na bai u mekim i kamap gutpela olsem wanem?

2. Plis ridim dispela ol toktok na painim aut sapos ol i tru o giaman?

Toktok	Turu / Giaman
Dringim wara i kam long hul wara/wara em i grin	
Rayusim pipia em i wanpela grin tingting	
Petrol ol i yusim long motobaik em i wanpela klin sos bilong eneji	
Yusim Sola Eneji em i grin	
Yusim paiawut long kuk em i gutpela long helt bilong yu	

3. Lukluk long ol piksa daunbilo na givim nem long ol

Piksa	Ansa
	
	
	

4. Wanem bikipela samting em i halivim igo long baioges plent, na bai yu mekim wanem wantaim wanem samting i kamap long en?

WOK 4B

1. Wanem ol samting i wok kamap nau long pasin bilong yusim wara insait long kominiti?

2. Wanem em i Renwara Havestin?

3. Hau yu save lukautim wara bilong dring?

WOK 4C

1. Wanem em ol sampela rot bilong mekim moni long pipia?

2. Painim aut ol pipia long dispela ol piksa na tokaut long hau bai yu mekim i kamap niupela gen?

Piksa	Mekim kamap niupela gen bilong yusim		
			
			
			

3. Nemim sampela long ol samting ol i mekim niupela gen bilong yusim i stap nau long kantri bilong yu?

WOK 4D

1. Wanem ol hevi wantaim Fisis insait long ol kantri bilong yupela?

2. Givim nem bilong sampela long ol riniuabol eneji tul yu ken yusim long fisis?

3. Givim nem bilong sampela long ol tingting bilong kamapim ol samting yu ken mekim long hanhenkraf?

4. Givim nem bilong sampela long ol hevi i stap insait long forestry sekta long ol kantri?

5. Bilong wanem, pasin bilong lukautim ol mangoro long kominiti em i bikpela samting?

Hap bilong rait:

5

Wei Igo Het

5.1 Ol Wok bilong Koparet Sotel Responsibiliti

Planti long ol grin tingting ol i ken lukim olsem Koperet Sotel Responsibiliti, dispela em i gutpela tul bilong ol lain i save sapotim dispela ol wok (ol fainensal institusen, NGOs, Misonaris).

PIKSA 40: Ol Koperet Sotel Responsibiliti⁴⁸



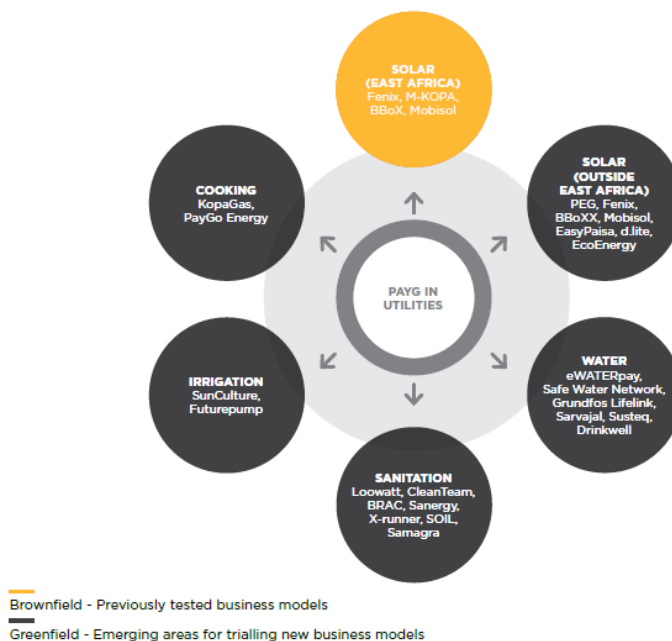
5.2 Ol Wei na Tingting i Grin Moa - Ol Bikpela lukluk bilong Bisnis

MONI EM I WANPELA KI ELEMEN – we em i yusim liklik enoji o grin bisnis. Ol man na meri bilong kominiti bai i no inap long wok wantaim planti long ol dispela tingting we i

stap bilong bihainim – we em i yusim liklik enoji o grin bisnis. I gat nid long mekim kamap ol niupela bikpela lukluk bilong bisnis we em i gutpela inap long kisim tingting bilong kominiti. Sapos nogat, dispela i ken kamap olsem wanpela liklik tingting tasol bilong salim.

PIKSA 41: Ol Bikpela Lukluk bilong Moni⁴⁸

PAYG utility models in greenfield markets



Note: This list is neither representative nor exhaustive

48 Source: Mangala, https://i2.wp.com/www.mangalaclothing.lk/wp-content/uploads/2020/05/mv_01.jpg?resize=1024%2C412&ssl=1

49 SMA Mobile for Development; <https://www.gsma.com/mobilefordevelopment/english/our-new-report-going-greenfield-with-pay-as-you-go/>

Kamapim ol Step bilong Grin Bisnis – piksa em., Pipia Menismen – Step bai Step Lukluk

- Kamapim wanpela grup long kominiti we i gat tripela o fopela memba. I mas i gat meri i sanap makim kominiti.
- Painim aut ol lain i save kisim pipia, ol kain lain olsem ol meri/ol yangpela manmeri ol i no wok na ol singal mama.
- Painim aut ol lain bilong baim pipia we i stap klostu na ol lain i save kisim pipia
- Wanbel long wanpela prais wantaim em (ol dola/kg bilong pepa, kadbod, wanpela botol, wanpela kg bilong ain, na sampela moa.)
- Wanbel long wanpela peimen wantaim man i save baim pipia – **Moni kam insait**

- Baim wanpela masin bilong skelim ol samting
- Wanbel long wanpela prais wantaim man bilong kisim pipia – **Moni go aut**
- Skelim ol pipia we i ken kamap niupela gen, olsem ol kaikai bilong gaden na pekpek bilong wel abus, na ol pipia we i no inap kamap niupela gen olsem ain/pepa.
- I mas igat ol gutpela pipia diwai bilong mekim ol samting i kamap niupela gen. Salim em olsem wanpela fetetaisa
- Salim pipia pepa / pipia ain i go long ol lain i save baim pipia
- Profit = Inkam - Ekspens
- Serim ol profit insait long kominiti

BOOKKEEPING SAMPLE**PIKSA BILONG REKOTIM MONI**

De	Mun							
Ol ekspens	Kisim Pepa Pinis		Kisim Ain Pinis					
	Kgs	lo Kina	Kgs	lo Kina				
Pipia Kolekta 1								
Pipia Kolekta 2								
Pipia Kolekta 3								
Trenspot edmin na sampela moa								
Inkam	Kisim Pepa Pinis		Kisim Ain Pinis					
	Kgs	lo kina	Kgs	lo Kina				

5.3 Ol Grin Wok

Ol hap bilong ol samting long kamap em:

- Operesen na Mentenens bilong ol sola sistem (Elektrikol na ol Mekenikol teknisen na ol enjinia)
- Operesen na Mentenens bilong Piko haidro (Elektrikol na ol Mekenikol teknisen na ol enjinia, ol Plama)
- Konstraksen bilong ol Renwara havestin sistem (sivil na mekenikol)
- Operesen na mentenens bilong ol wara saplai sistem (sivil, mekenikol na elektrikol)
- Skelim na menismen bilong pipia (environnement)

Na long pinisim, hap bilong dispela buk bilong lainim em i lukluk long kisim save na luksave long sampela long ol grin wok i kamap.

- Pipia em i wanpela RISOS we i stap long rong hap. Yu mas kamapim ol niupela tingting long kisim bek risos bihainim ol samting ol i soim antap na we em i stap long mak bilong lokal kominiti.
- Eneji i no save stap LONGPELA TAIM, yu i mas tingting gut taim yu yusim Eneji. Lukautim na yusim ol Eneji Ifisien Ikwipmen.

Yu stap long gutpela taim stret we Riniuabol Eneji em i planti. Plis yu i mas yusim ol gut na long gutpela wei .

WOK 5

Mak: Ol Lokal gavman wokman, ol Provinsel, ol Distrik, ol Taun na ol Ailan bodi, na sampela moa.

1. Wanem wok gavman bilong yu i save mekim long tokaut moa long ol CSR wok?

2. Wanem ol tingting yu laik kisim long kamapim ol grin wok?

Mak: Kominiti long ples/ol lida long sios, ol meri, ol yangpela manmeri, ol singal mama na ol lapun.

1. Givim sampela long ol CSR wok yu ken kisim insait long kominiti.

2. Nemim sampela long ol grin wok we ol i ken kamapim we i go wantaim ol tingting bilong grin bisnis na riniuabol eneji?

Mak: Ol lokal elektrisen, ol manmeri i gat save long teknikol wok.

1. Hau bai yu mekim save bilong yu long mekim ol samting i kamap gutpela moa?

Mak: Ol Liklik Bisnis

1. Nemim sampela long ol CSR wok yu i laik long kisim we i go wantaim tingting bilong grin bisnis.

2. Hau bai yu stap save long ol samting i wok kamap long grin bisnis?

Hap bilong rait:

ROL PLEI 1

Murray na Jenifa i save stap insait long wanpela long ol dispela kominiti. Murray i save wok olsem wanpela mekanik long taun i stap klostu. Murray i save ron long baisikal i go long wok olgeta de. Jenifa i save yusim wanpela stov we i save yusim paiauwut long kuk. Bihain long Murray i save go, Jenifa i save wokabout klostu long tupela hawa i go antap long maunten long pulumapim wara. Em i save lukaut gut tru long noken yusim wara nating. Femili i save yusim sola haus laiting sistem long mitim ol nid bilong ol.

Olgeta de taim em i save go long wok, Murray i save lukim stoa bilong kisim pipia. Murray i bin lukim planti long ol pipia pepa, pipia ain na ol botol i nogat samting insait. Planti taim Murray i save lukim ol i tromoi pipia long olgeta hap insait long kominiti bilong em. Dispela i mekim em i tingting long stop long stoa taim em i wok long kambek long haus.

Long avinun taim em i save kam bek, em i save stop long stoa.

Murray: Halo mi laik save tasol long wanem samting yu wok mekim nau insait lopng stoa

Hobet: Halo, nem bilong mi Hobet na mi papa bilong dispela stoa. Mi i save mekim moni long kisim na salim pipia.

Murray: Yu kisim pipia olsem wanem!!!

Hobet: Yes. Mi i save kisim pipia bilong kaikai na tanim wantaim graun na salim ogenik fetetaisa. Mi save salim pepa we ol i save mekim ol kadbod bokis. Pipia ain mi i save salim long indastri bilong kukim ain. Em i save kukim I go kamap metol. Ol pipia botol, sapos ol i no bruk, mi save salim long indastri bilong mekim dring,

Murray: Dispela em i gutpela. Yu i save kisim pipia olsem wanem?

Hobet: Mi gat ol lain i save kisim pipia na mi save stretim ol pipi ana baim ol long moni.

Murray: Mi gat inap pipia i stap long kominiti bilong mipela. Sapos mi kisim ol na givim long yu, bai yu baim mi?

Hobet: Yes, em bai i olsem. Dispela i ken go antap long moni yu save kisim. I gat ol lain husait i save kisim pipia, we ol i save baim ol long moni mak olsem K400, i go inap long K500 long wanpela mun.

Murray: Em Gutpela! Bai mi toktok moa wantaim kominiti bilong mi na kambek gen long yu.

Murray: draif i go bek long haus wantaim dispela tingting!

Jenifa: Halo, bilong wanem yu kamap leit.

Murray: Long taim mi bin wok long kam bek, mi bin stop long wanpela stoa bilong pipia na lukim papa bilong stoa.

Jenifa: Stoa bilong pipia??? Dispela em i minim wanem??

Murray: Em i save kisim pipia long ol kainkain haus na i save salim ol long ol lain bilong mekim i kamap niupela gen. Em i save baim ol man husait i save kisim pipia na givim long em. Na em i wok lukluk long mekim wankain long kamapim moni. Dispela ol moni i kamap bai halivim yumi long kisim wanpela bikpela sola sistem, tenk bilong pulumapim wara we i ken daunim ol wokabout bilong go pulumapim wara. Na tu, yumi i ken kisim wanpela sistem bilong kisim renwara.

Jenifa: Yes, yumi toktok long kominiti dispela Sunde na yumi statim.

Na long Sande ol i toktok long kominiti na Mari em i skulim kominiti long pasin bilong kisim pipi na mekim niupela gen. Em i winim bel na tingting bilong kominiti long yusim ol bin long putim ol pipia. Em i tok em bai kisim na givim i go long ol lain bilong mekim i kamap niupela gen. Na tu, em i tokim ol olsem, moni em bai kisim long dispela, em bai serim 50:50 namel long ol.

Long de bihain taim em i wok long kam bek, em i stop long stoa bilong pipia.

Murray: Halo Hobet

Hobet: Halo Mari. Gutpela long lukim yu kam bek. Hop yu ken halivim long mekim kominiti bilong yu i kamap grin.

Murray: Yes. Mi winim bel na tingting bilong kominiti. Mi bai kisim pipia, bringim na givim long yu. Yu bai baim mi long moni.

Hobet: Yes. Yu mas kisim pipia tupela taim long wanpela wik. Mipla bai kipim rekot na mi bai baim yu long wanwan mun. Na tu, yu mas kipim pipia bilong gaden kaikai long kominiti. Mi bai halivim yu long tainim wantaim graun na yusim olsem fetetaisa.

Murray: Tenks, mi bai mekim dispela wok.

Bihain long wanpela yia, Mari i lukim olsem em i mekim moni mak olsem K600. Em i skelim moni wantaim ol narapela. Hap moni we i bin stap bek, em i baim wanpela bikpela sola sistem. Em i gat inap lait, sola frij na TV. Em i lukluk long baim wara sistem long yia bihain.

I no Murray na Jenifa tasol i bin hamamas, nogat, em kominiti olgeta. Kominiti i save hamamas moa long gutpela wei bilong laip.

ROL PLEI 2

Long ples kominiti bilong Lawa, wanpela grup ol pikinini pilai long skul plei graun na ol i wok stori

Meli: Ken, yu bin lukim pinis dispela lapun meri, husait i save wokabout raun long ples, rausim pipia long olgeta bik moning?

Ken: Yes, Meli – Pastaim mi bin ting olsem em i longlong liklik, tasol olgeta moning mi save lukim em na em i gat sampela kainkain bek bilong pipia – wanpela bilong ol glas botol, wanpela bilong ol plastik botol na wanpela tu, bilong ol pipia we ol i svae tromoi. Mi laikim tru wok em i save mekim long lukautim na mekim ples i kiln.

Meli: Gutpela tru – Mi bin wok laik tru long save moa long em – tenku long tokim mi long wanem samting em i save mekim – em i save kisim moni long mekim dispela wok?

Ken: Mi harim olsem em i save kisim ol pipia em i save bungim i go long town, na em i save kisim sampela moni long en – em i save yusim dispela moni long ol tumbuna bilong em. Mi harim olsem papa na mama bilong ol i dai lusim ol olsem na em i mas lukautim ol.

Meli: Dispela em i wanpela sore stori tru – ating bami kirap long moning tru na halivim em

Moning tru long narapela dei, Meli i bungim dispela lapun meri long taim em i wok rausim pipia.

Lapun meri: Gutpela monin, yanpela man – yu mekim wanem long dispela traipela monin?

Meli: Mi bin wok stap weitim yu – Mi bin laik halivim yu na lainim moa long wanem samting yu i bin laik mekim long dispela pipia.

Lapun meri: Sampela yia i go pinis, mi bin harim dispela ol tingting bilong Ridius, Riyus na Risaikol long pikinini meri bilong mi bipo long em i dai. Em i bin mekim mi tok promis long lukautim gut ol pikinini bilong em na tu, environmen. Em i bin wanpela meri we i save toktok strong long pasin bilong lukautim environmen. Long dispela tasol, na mi wok mekim dispela wankain samting i kam inap long nau.

Meli: Dispela em i wanpela gutpela stori tru, mi bai mekim wankain samting olsem tu, bilong halivim long lukautim environmen.

Lapun meri: Na yu i ken mekim moni tu – olsem na mi laik tokim yu long mekim na soim long ol poro bilong yu, ol wei bilong mekim kamap na long dispela, yumi i ken kamapim environmen we i save lukluk moa long ol tingting bilong ol 3R.



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