

INCREMENTAL HOUSING WORKSHOP, FIJI

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What is incremental housing ? Why are we interested ? What did we do ?

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**Incremental housing is
the institutionalization
– a mimic –
of the informal housing process**



1 FAMILY PERSPECTIVES

SQUATTERS
RELOCATION
UPGRADING
TRANSFORMATION

2 PARALLELS

ENVIRONMENTAL REFLECTIONS
EXAMPLES FROM LATIN AMERICA

3 INCREMENTAL PERSPECTIVE

ADDRESSING SPEED AND SCALE
CULTURE/INCOME/REGULATION

IDEAS AND SUPPORTING POLICIES
SQUATTERS
RELOCATION
UPGRADING
TRANSFORMATION



UNDERSTANDING HOUSING PROGRAMS THROUGH THEIR EYES...



1 FAMILY PERSPECTIVES

SQUATTERS
RELOCATION
UPGRADING
TRANSFORMATION

Squatters



“The new Raiwai housing is too small.”

Walasio Tulevu

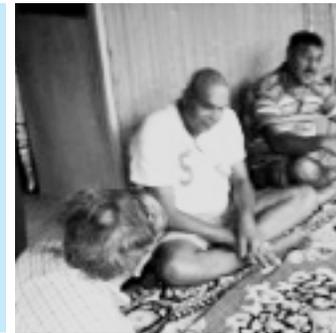
“We would like to move back and renew the sugar cane land lease”

Vinay Sandeep Ram



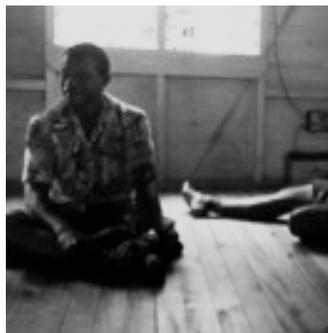
“Fiji people, big people.”

Jai Rai



“We disassembled our house in Lambasa and brought it to Suva.”

Sevita



“My father built this house, and he will help build our next house”

Cheron Natasha



“The materials to build the house were a gift from my former employer.”

Leoni



“We are planning to move to Housing Authority housing”

Nabul Naz Nisha



“When we get relocated, we will look to the government to look after us”

Cassanita,

“I want to expand! But there’s no more room”

Gyinesh

What they said



“The most difficult part to build was the stilt-base of the house, which we constructed to let the storm water flow under the house.”

Mr. Leoni

Leoni and Buna moved from Kandavu to Jittu in 1979 for employment. They have 4 children and 2 grandchildren from which only 2 children and 1 grandchild are currently living in the house. Leoni works as a real estate security officer during the night and Buna works for the Christian health ministry. Back in Kandavu they had a bigger family house. They saved sufficient money through the PCN to be able to move to the Lagilagi project in the future. They plan that their children will stay and live in their current house in Jittu. They grow breadfruit and some other tree-fruits around the house, but mostly they buy their food in the supermarket. The school and public health center they go to are located nearby the community. The materials they used to build the house were a gift from Leoni’s former employer. They received help from the men’s association to build their house, but in general it is not easy to find helpers to help build a house. The most difficult part to build was the stilt-base of the house, which they constructed to let the stormwater flow under the house. The house is connected to water-provision, but they don’t have electricity. They use a generator and batteries. In general they think the community feeling is very strong. A negative side of living here were the large amount of drunken people, but they say the church is doing a good job in helping to solve this problem.





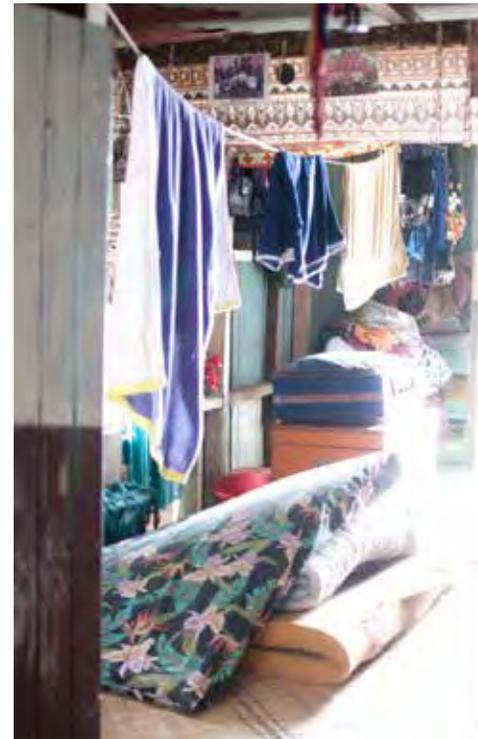
S M
L XL

30

YEARS



3 TIMES BIGGER!



MOVED TO
SUVA

NOW

BUY
LAND



1979

2013

SQUATTER

RELOCATION

UPGRADE

TRANSFORMATION



“We think the Raiwai housing is too small for us to be relocated to.”

Walasio Tulevu

Walasio and his family of 4, including wife and two girls, came to Suva from their village to better educate the children. Mr. Tulevu is Fijian and is the President of the PCN committee. His original house burnt down and he relocated to the Jittu Squatter Settlement in August 2011. He is currently waiting for the new housing project to finish around the corner from Jittu and is expecting he will move his family in upon completion. His current home is a typical timber and steel squatter construction and has two private bedrooms and a common family space with bath area outside. After his first house in Suva burned down, he found a lot in Jittu and negotiated with the ‘landlord’ for space. The house is built as L shape around the neighbour’s home. He decided later to expand. His neighbor allowed him to take some space from his house and it was turned into Mr. Tulevu’s home and created a new square plan. He has not finished the addition due to a switch in funding because his daughters school became priority.

Water is collected by means of the roof and used for drinking and sanitation. They have a really nice sense of community in Jittu, but would love a community space or common area. This area could serve for religious ceremonies, parties and general gathering. When asked about the Reiwai public housing project, the family proclaimed it was too small! They would really like more space and LAND! An ideal scenario would be a place to grow vegetables and fruits. They currently only have minimal front and side yards now and would like much more land area. They grow papaya and banana plants currently. Overall the house is roomy and has a nice connection to the landscape and features good cross ventilation and decent day lighting.



FAMILY/HOUSEHOLD

HOUSE SIZE

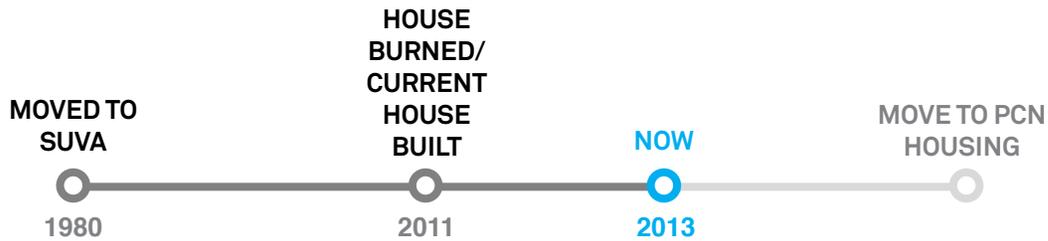
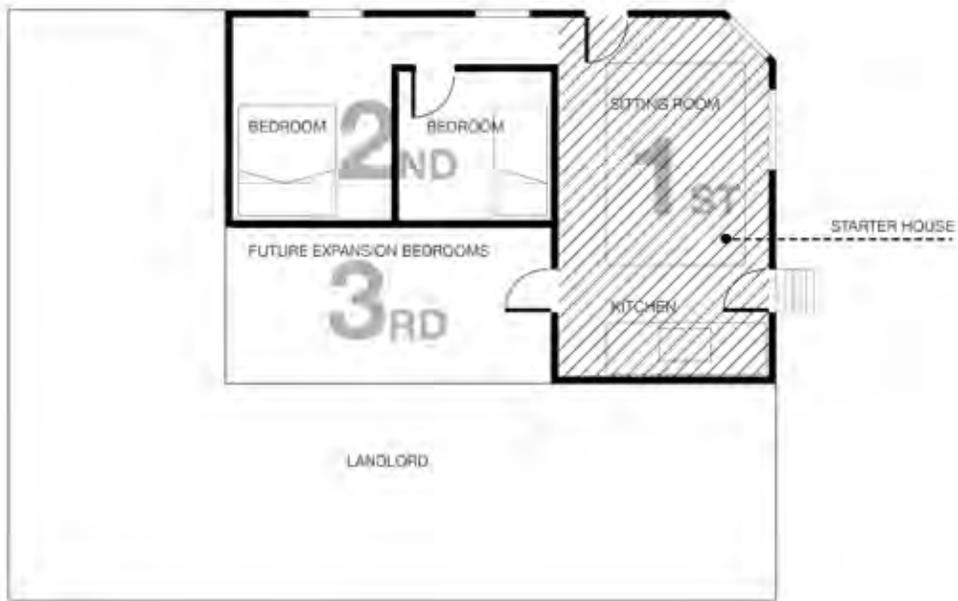
RESIDENCY



S M
L XL

2
YEARS

SHARED BATHROOM



SQUATTER RELOCATION UPGRADE TRANSFORMATION

Relocation

What they said



“My sons want to join the army and hopefully we will get a better house then”

Mrs. Rasigatale

“There is a new community centre that was built this year and that is good”

Kamla



“There should be a policy to control the length of tenure”

Alosio + son

“We would like to have some poultry on our farm.”

Mr. Paulin and Paula

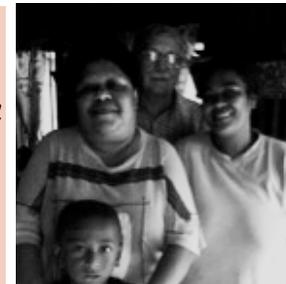


“It is unfair that we have to pay more for the same sized house”

Luke, Alena, Lusia, Usaya

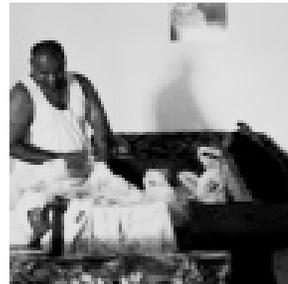
“It is good, but not good enough to stay here for the long term”

Ingie



“Our house is too small now, we all sleep in the same room”

Aseidi Rokovucago



“I am not a lazy man, I do not sit around, I have lived here for 29 years, and I work”

Ilatia



“I would like to have a yard to grow my own vegetables”

Mrs. Ilis Apeci





Farm Village

“We recommend the [farming] program to all our friends in Suva”

Simi, Kathy, Baseva, Junia



A young Fijian couple, Simi and Kathy have two children. Baseva, a young girl in the 4th grade, and Junia, a 2 year old boy. Kathy is originally from the Coral Islands. The family was originally from Nambua Musa, a squatter settlement in Suva. The husband, Simi, was already working as a commuting farmer from the city, so the move to the agricultural pilot community was an easy and beneficial decision. The family moved in last Febuary, and the program began in 2011.

The family thinks that the community is very strong and they work together currently. They have developed good relations with the locals and the other families. They share a truck that is supplied by the PCN, and use it to bring vegetables to the city on Fridays as well as other errands. The family is happy to be here—far away from the urban center, where they can enjoy the nature fully. She doesn’t want to go back to the city area.

Some improvements that the family suggested are: a real road/pathway to the farm (currently there is only a mud road). and also a space for the children to play was. They play on the road and on the hills, but there is no flat open space for them to have as a playground.



Farm Village

“We plan to grow 1 or 2 acres of ginger, some vegetables and if possible have poultry.”

Mr. Paulin and Paula

Paula and Paulin have 6 children. He is a farmer and also had training as a carpenter. The farming training started 8 months ago and he has 4 months to ‘graduation’. Before moving here they lived in Jittu, in a larger house, but the structure of the current house is much better. Before living in Jittu they lived in Bua in a 4 bedroom bigger and better house. They added a terrace to the house for a cooking space. Once Paula will graduate and the family will move to the new house on the 10 acre land, they expect to receive a similar type of house from the government. Paula would want to add a second storey to the house (like the house they had back in the slum) and he is confident he’s capable to construct this with his knowledge as a carpenter. He is planning to build the addition with local materials.

On his next farming ground he is planning to grow 1 or 2 acres of ginger, some vegetables and if possible have poultry. The money they (all farmer families) make from selling the vegetables goes to a PCN savings to be split.

Paula and Paulin are happy to live in this village, where everything is for free. They say their is no specially strong community feeling. They do help each other out but they can also contact PCN in case of an emergency.





S M
L XL

1
YEARS



FROM
JITTU

JOINED
LIARP

NOW

LEAVE
PROJECT

RAISE
CHICKEN

2012

2013

2014

SQUATTER

RELOCATION

UPGRADE

TRANSFORMATION

Thoughts and possibilities

Government should consider treating it as a new village

Training on site makes more sense so people do not require relocation

Include a outdoor communal space following village planning guidelines

Consider owning vs. Leasing land



PRB Housing

“It is unfair that we have to pay more for the same size flat as of our neighbor”

Luke, Alena, Lusia, Usaya



We met with Luke (the father), Alena (the mother), Lusia (the daughter-in-law), Usaya (grandson; Lusia’s son), and a nephew. There are three families living in the flat, a total of 7 people. (5 adults and 2 children). The family moved to this PRB flat in 2010 so they could be closer to their work location.

Osea, the husband of Lusia, used to be a carpenter but he is now applying to be a police officer, so the family could be covered by the government as civil servants. Lusia is studying business administration in college, and will be looking into getting a job at a private sector soon. Luke, the head of this family, works as a security officer at Mango Café in Nasese.

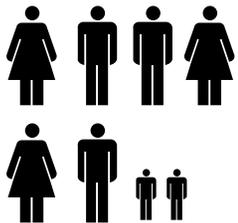
The family seemed unhappy with the size of the flat since the family size is growing and they cannot expand the size of the current flat. Moreover, the rental fee is based on the whole household income level, and they are paying much more (\$50/week) than other households in the same building. They believe this is unfair since they are paying much more for the same size and quality of the flat.

The family is planning to rent the flat for now, until they save enough money to own a house. They had very positive opinion on the Reiwai PRB that is under construction now. They thought the flats are good and large enough for families. They want bigger rooms to accommodate three families.

FAMILY/HOUSEHOLD

HOUSE SIZE

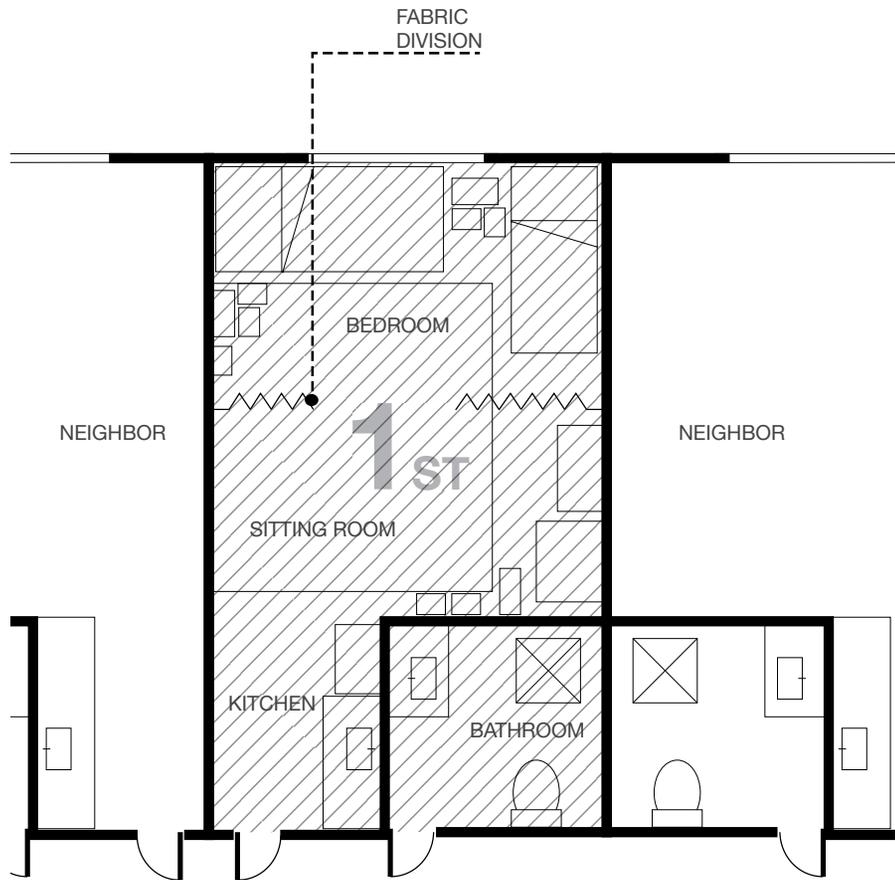
RESIDENCY



S M
L XL

3

YEARS



SQUATTER

RELOCATION

UPGRADE

TRANSFORMATION

PRB Housing



*“The house is too small now,
we sleep all in one space,
with mattresses on the floor.”*

Salaneata and Aseidi Rokovucago

Salaneata and Aseidi Rokovucago moved into this housing with their son back in 1981. They payed 5\$ per week rent back in 1981 and a 50\$ deposit. Now they pay 33\$ per week. Before they moved here they rented a similar size of place around Suva for 80-90\$ per month. In the meantime their son got married and they have 4 kids. The whole extended family of 8 is living together in the flat. The grandparents retired 7-8 years ago and the son works in a boat-selling bussiness in New Zealand to take care of the family. The family is happy living here, but they think the house is too small now.

They all sleep on mattresses on the floor in the living room. They are planning to buy a land or a house in Suva from the Housing Authority or another organization. They are interested in the Tadirua lots, managed by the Departments of Lands. They want to stay in Suva for the education of the children. They currently pay 40-50\$ per three months for water and 40-50\$ per month for electricity. They take the bus to the city and the children take the 30 minutes schoolbus.

They think it is positive that they live close to town, school and shopping and say there is a good community feeling.



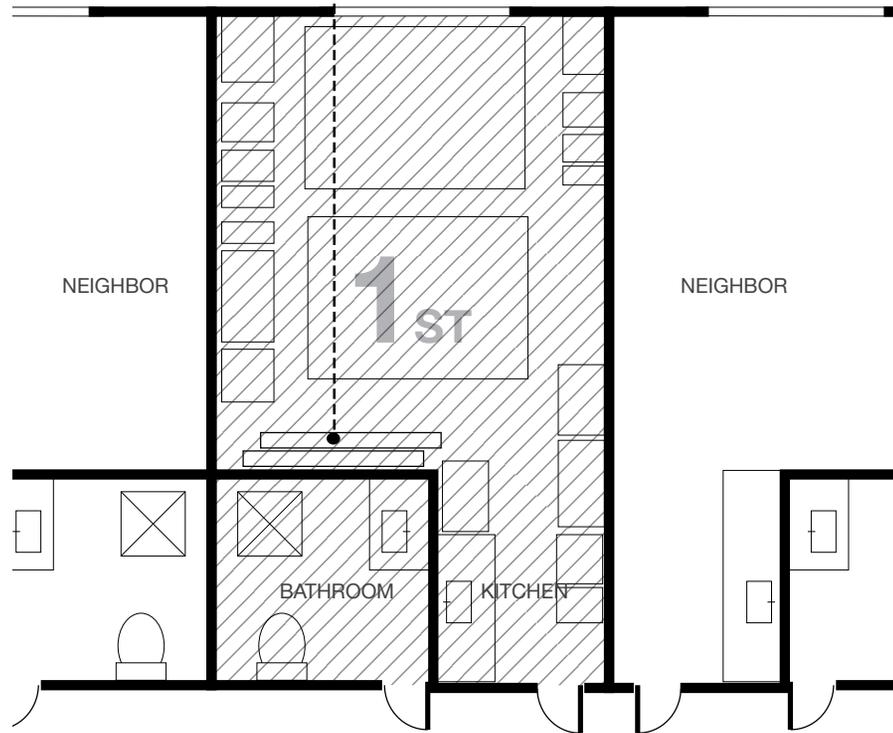


S M
L XL

32

YEARS

STACKED
MATTRESSES



SQUATTER **RELOCATION** UPGRADE TRANSFORMATION

Thoughts and possibilities

The walkups site planning strategy should consider environmental and cultural issues

Rent to own schemes should be put in place if a resident is there for more than 'x' years

Mandatory savings program to help in transition

Strengthen community organizations: training programs for women at home,

Organize a day care system, encourage residents committee

Consider option to create shops (income generation)

Upgrading

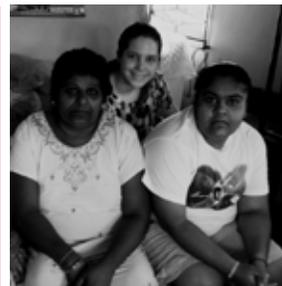


“I want to start my own restaurant ”

Mrs. Zohra Sulemann

“We get twice the area without breaking any law, when we built the first floor”

Mrs Salama Mahommad

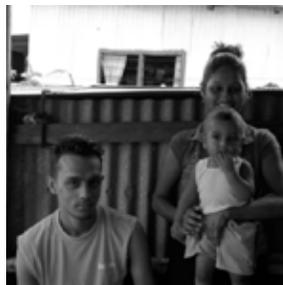


“We got roads now, but when we moved in this area was a jungle”

Mrs Priya Lakhan

“We fear that the owner might kick us out once he gets tenure”

Mrs. Nazia Nisha

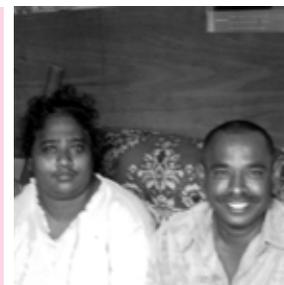


“When we will receive the title for the house, we will expand/upgrade the house,”

Aseidi Rokovucago

“I migrated from Savusavu, where I used to live in a big house.”

Mrs. Eleni

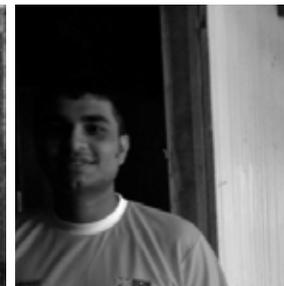


“We upgraded the house 12-13 years ago when we knew we would receive tenure”

Mr. Ruriuj

“I buy concrete blocks one by one and save them for my new home”

Suresh and Suman



“I’m not sure when they will reassign us, hopefully this year”

Ema

What they said



“We upgraded the house 12-13 years ago, we knew that we would receive tenure and the government pegged the land and road.”

Mr. Ruriuj



Ruriuj and his wife moved to this site in 1972. They came at night and built a small tin house with 1 bedroom. They shared a toilet with 5 families and after a while a hospital, preschool and health center were built for the community. They have 7 children, 6 biological and 1 adopted. Two are living with them. Ruriuj was a truck driver, but he and his wife are retired now. His sons take care of the family working at a hardware company and in a bottle company. Before moving here they lived in a rented house in Sambula, where they were casual laborers. The rent of the house there was high, that's why they moved to Suva to have their own home. Ruriuj made on average 125\$/week wage as a truck driver, so he could save on average 45\$/week to build the house. The first house they built on this site was very small. It didn't have a floor; they lived on a mud base and had 3 tin walls. The second house was a 2-bedroom house. They upgraded the house 12 years ago when they knew they would receive tenure and the government pegged the land and the road. The road was improved before the house was completed. Before the political coup the government organized water provision on the site. He built the frame of the house at once and incrementally put the walls and divisions in later. They pay 38\$ per month for electricity and 28-38\$ for water per three months. They received FNPF housing assistance. The house fills the whole parcel, so they don't grow any vegetables. There's a positive community atmosphere. A negative point in the neighborhood is the broken drain in the back of the settlement that should be taken care of by the council.

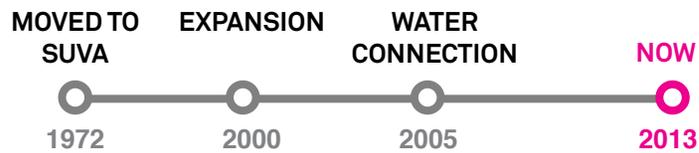
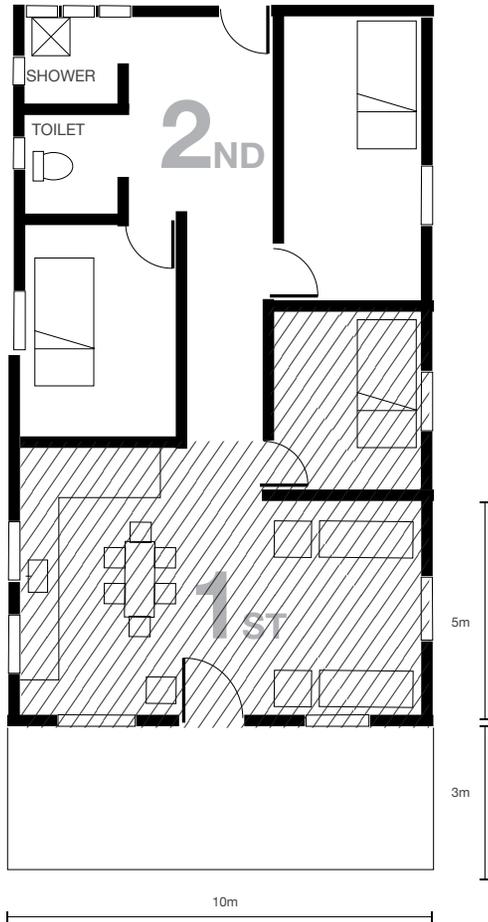


S M
L XL

31

YEARS

GROUND FLOOR PLAN





“We plan to finish the first floor expansion when we get tenure”

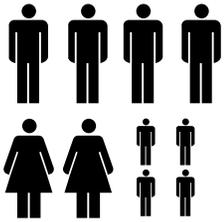
Mrs. Slama Mahommad



This is a very large house, expanded vertically. Mrs Salama Mahommad lived in this house now for more than 50 years. It originally was a tin house, now converted into concrete one. They have also added a small tin house for their in-laws who are retired government employees. Mrs Mahommad lives with her husband, and with the family of her husband’s brother. She also has a brother who is blind and lives with her. Her husband has recently started business of carving stones with his brother. They own a car, which was given to them by someone and is in disrepair.

The house itself has five bedrooms, living room, a kitchen and a toilet. Three bedrooms are under construction on the first floor. The first floor is made up of panels and a timber support structure and has a terrace. Once they get the tenure the family wants to extend the first floor. Initially there was opposition from the government to build the first floor. But they gave permission on the basis that it will not extend beyond the ground floor footprint. For extension and to start a business they took loans from relatives and are currently paying them back. They have a satellite TV antenna. The kids in the house go to a nearby school.

FAMILY/HOUSEHOLD

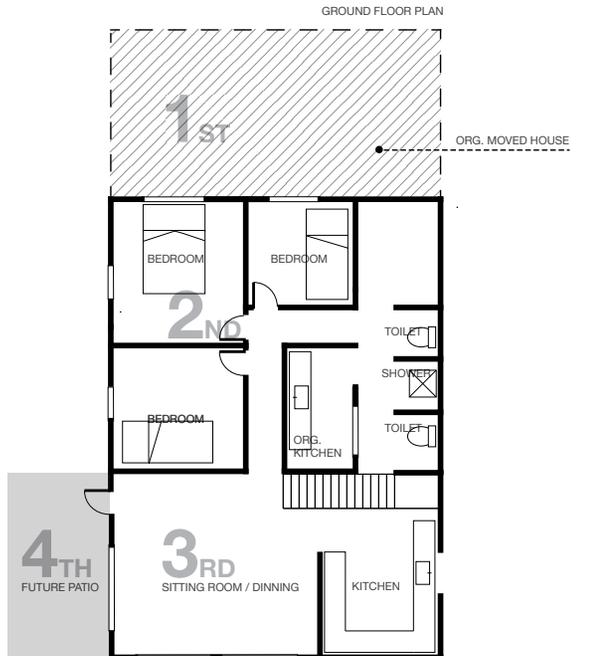


HOUSE SIZE

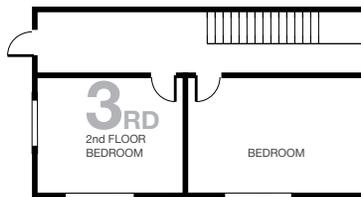


RESIDENCY

60
YEARS



Ground Floor



First Floor



SQUATTER RELOCATION **UPGRADE** TRANSFORMATION

Thoughts and possibilities

Encourage upgrading in situ instead of relocating squatters

Develop appropriate ways to increase density:
standardize lots at half their current area and encourage double story houses

Public space strategic interventions

Connection to public transport
Expand sanitation program to include core house and rainwater tank

Community sourced land demarcation where people collaborate to set their housing plot

Commercial zoning between residential and industry, main roads

Squatters are a major source of unskilled labor in the industrial section of Suva, perhaps industry and squatters groups can come together and discuss mutual interests

Transformation





“We extended the house because there was open space around the house”

Mrs. Mariane Regina Vakaenei

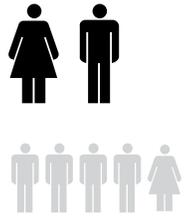


This household consisted of a family of eight, Husband, Wife, six children (all children went to expensive colleges).the owner of the house used to work in the army and served in the UN peace keeping missions, which pays considerably more salary. all the sons serve in the military. Some are married and moved out.

The family bought house in 1998 for \$25,000 from a Chinese owner. He is the 11th owner of the house. He used “FNPF deduction” that assisted the family to save money when moving in. Now they are on the third year of payment. They have 30 years left for repayment of loans. According to the family this loan issue/term is easily negotiable.

This house amongst all in the neighbourhood benefitted most due to location, being on the corner plot they could expand in three directions. They have extended the house because there is open area around the house. This was done easily by talking to the government. Their extension plan was approved by the city council. Before moving into this house, they used to stay in a four-story PRB rent where the rental fee was very cheap.

FAMILY/HOUSEHOLD



HOUSE SIZE

S M
L XL

RESIDENCY

12
YEARS



Ground Floor



First Floor



BOUGHT THE HOUSE

EXPANDED 1ST PHASE

EXPANDING GROUND FLOOR

EXPAND FIRST FLOOR



1998

2003

2013

SQUATTER

RELOCATION

UPGRADE

TRANSFORMATION



*“All the families came together
 12 years ago and
 extended the original houses”*

Good Lane Residents

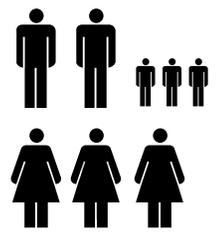


The original structure is a prefabricated concrete construction system that was built in the 1970's. The core house consists of 2 levels, with the 1st level containing a living space, kitchen and bathroom. The 2nd level features two small bedrooms. Around 12 years ago in the year 2000 the 5 families living on Good Lane came together to extend their small homes. Following the Town Planning Act the families had to do the extensions at the same time. They hired a contractor and added the extension for about \$50,000 per family. Each extension consists of a new living area and bedroom located on the second floor. The new home increased in size from 2 to 4 bedrooms. The 3rd phase of incremental extension to the home that the families have started to implement consists of covered patios. This acts as a nice social space for Kava drinking. Overall, this case of incremental transformation seems to be very successful. Both adequate house size and increased density are achieved with this development.

FAMILY/HOUSEHOLD

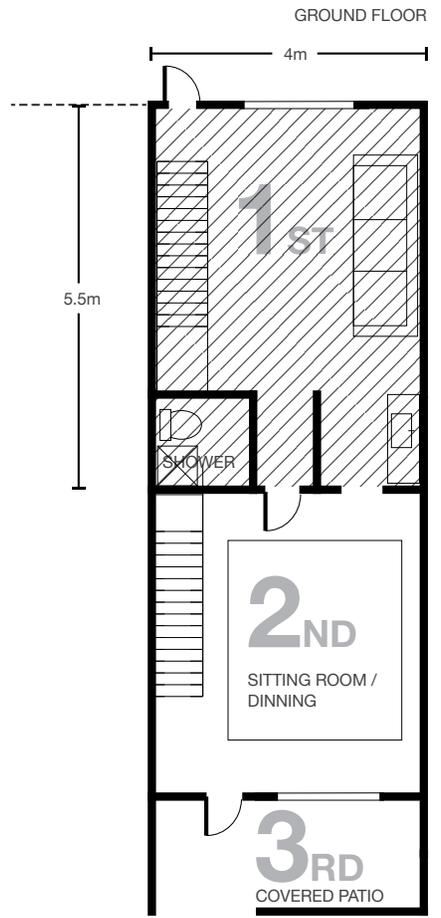
HOUSE SIZE

RESIDENCY

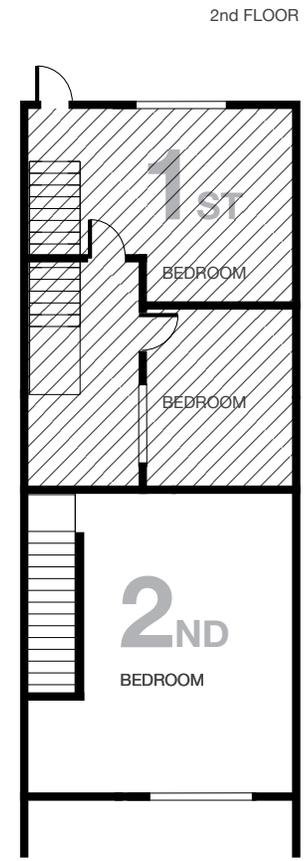


S M
L XL

42
YEARS



Ground Floor



First Floor



SQUATTER RELOCATION UPGRADE TRANSFORMATION

Thoughts and possibilities

Awareness to follow codes and regulations for transformation houses

Consider choice of materials and design accommodates future expansions

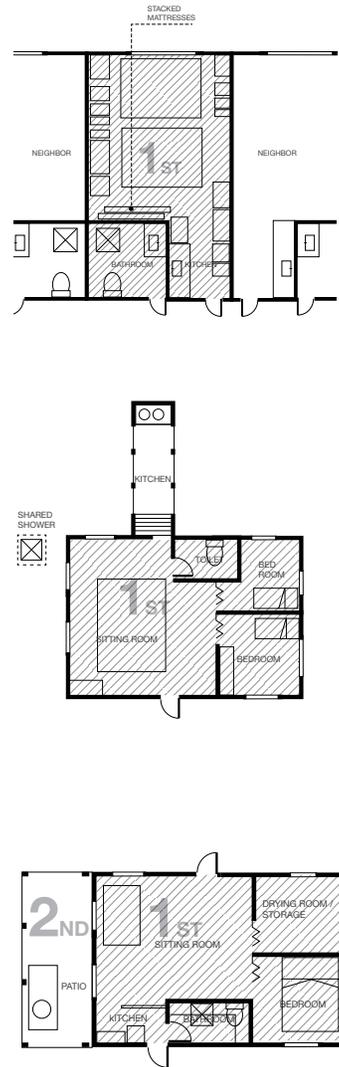
Consider supporting the process: loan programs, subsidized materials

Design: structural safety, consider appropriate expansion modifications

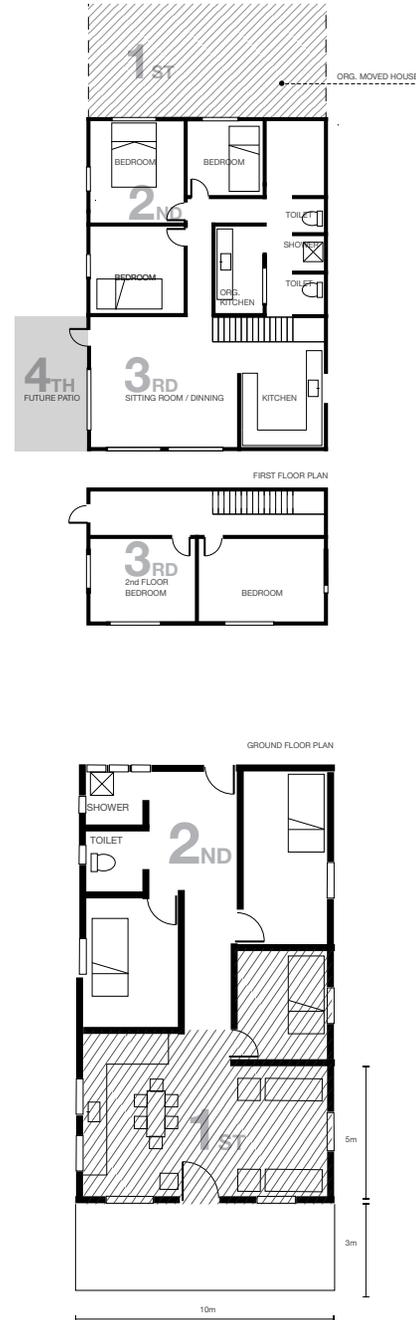
SQUATTER



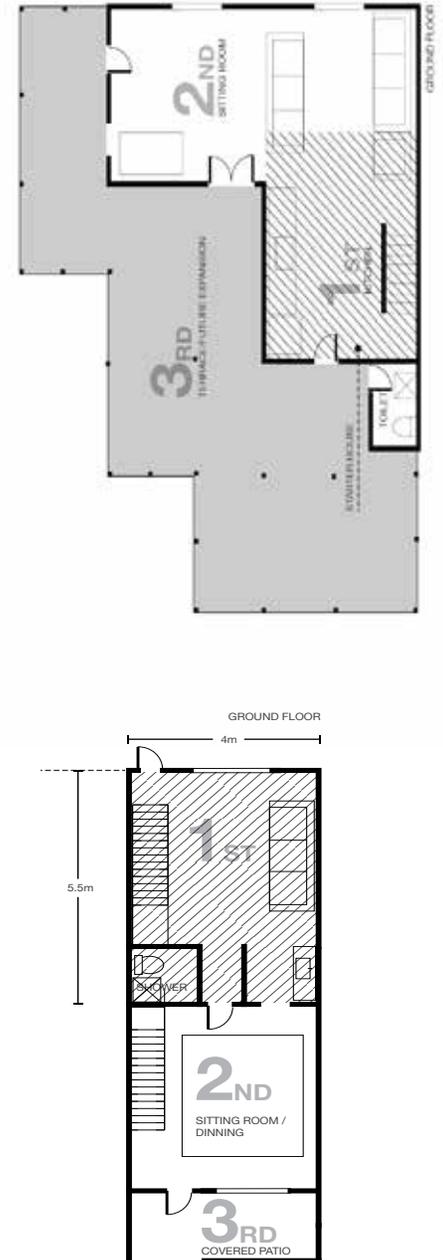
RELOCATION



UPGRADE



TRANSFORMATION





2 PARALLELS
ENVIRONMENTAL REFLECTIONS
EXAMPLES FROM LATIN AMERICA



Environmental Reflections

biodiversity
energy efficiency
water security and soil erosion
mangroves and disaster risk management
environmental governance



Addressing climate change through biodiversity conservation: payments for environmental services

HYPOTHETICAL EXAMPLE: every lot which has at least nine square meters of green space is eligible to participate in the program. The landowner does a quick assessment using a simple printed guide to determine the amount of plant species on the land. Project managers select a minimum number of different plant species (five species for instance) required to be present in a local resident’s lot and then pay them a small “rent” to allow those species to continue to grow on their land. Spot checks in the community for enforcement can occur by designated enforcement officers on five randomly selected plots per month. Payment for environmental services doesn’t need to be in cash, it could be in rent reduction, school discounts, coupons for energy efficient consumer goods. Capacity is built by precedent in the South Pacific Biodiversity Conservation Program.

TARGET: local residents at the village level

IMPLEMENTING ACTORS: South Pacific Biodiversity Conservation Program, NGOs (Live and Learn), Environment Department, local government

SAMPLE IMPLEMENTABLE PLAN: Ecosystem based management at the community level. This means measurable goals for ecological management implemented by the community.

POLICY JUSTIFICATION: The Johannesburg Plan of Implementation, Mauritius Strategy, and Convention on Biological Diversity all encourage environmental management at the community level and preservation of biological diversity as a tool to enhance resilience to the effects of climate change

POSSIBLE FUNDING SOURCE: GEF; Aggregated “biodiversity plots” at the village scale could be Clean Development Mechanism projects. NGO-based certification of plots could add jobs and credibility to a CDM offsetting project.

BARRIERS: upscaling to a national, systematic level; education at the village level.....



Addressing climate change through energy efficiency: solar panels as a renewable energy source

HYPOTHETICAL EXAMPLE: Every new home that is built in a development is required to have a solar panel which costs approximately 2500 FJD per unit. This would take approximately seven to fourteen years to pay for itself with no subsidy, or in four to seven years with a partial subsidy from the Fiji Government. The initial purchase would be done by government, with a payback plan over the 4-7 year window, that is automatically taken monthly as regular utility bill at present locked-in rates. Installation can be completed by villagers with printed materials and guides distributed by the Department of Energy

TARGET: utility ratepayers

IMPLEMENTING ACTORS: Department of Energy, Climate Change Office in the Ministry of Foreign Affairs

SAMPLE IMPLEMENTABLE PLAN: A national policy of subsidies to cost-share mandatory solar panels on every new house built in Fiji, plus a ten to twenty year plan to retrofit existing houses.

POLICY JUSTIFICATION: Kyoto agreement, SPREP, National Sustainable Development Strategy, National Climate Change Policy, National Environmental Management Strategy

POSSIBLE FUNDING SOURCE: GEF, visitor's tax?

BARRIERS: upscaling, moving beyond the pilot project scale to a national scale



Addressing climate change through energy efficiency: solar panels as a renewable energy source

HYPOTHETICAL EXAMPLE: A new development is planned for thirty houses. A strategy for simple installation of gutter systems and cisterns already exists as authored by SOPAC. The NGO Live and Learn provides educational outreach to build capacity for installation techniques. Government can require builders to utilize these resources, or complete trainings, to install these rain gutters and cisterns on every new house built. Cisterns and gutters could cost 3000 FJD and are a source of low cost or free water to the homes. They can pay for themselves over the course of eight years, or half that with a government subsidy.

TARGET: utility ratepayers, building companies, individual home builders

IMPLEMENTING ACTORS: Water Authority, Ministry of Works, Transport and Public Utilities Water and Sewerage Department, SOPAC, Live and Learn

SAMPLE IMPLEMENTABLE PLAN: Guttering systems are subsidized and mandatory on all new housing developments and retrofit on preexisting ones over a five year period. The rainflow into gutters is collected into rain cisterns.

POLICY JUSTIFICATION: National Sustainable Development Strategy, National Climate Change Policy (adaptation method to cope with heavy storms)

POSSIBLE FUNDING SOURCE: GEF, multilateral sources, costshare with ratepayers

BARRIERS: upscaling to a national, systematic level; training for builders



Mangrove conservation as disaster risk management: storm surge protection, biodiversity conservation

HYPOTHETICAL EXAMPLE: The Environment Department is outsourcing management to the local level, which is an efficient management tool and awareness-building method. Awareness campaigns also exist, and government could consider including a Fiji Mangrove Festival, or a national day for planting that could be included as a national holiday or festival in tour guide books so as to tap into the ecotourism coming into Fiji.

Successful community-based management is occurring in fragmented areas, and a larger national strategy could increase impact. This could include two, five, and ten year goals for replanting, paired with corresponding targets for conserved hectares of mangroves. Contests like those sponsored by the Ministry of Housing could foster community stewardship over mangrove management. If local development does result in clear-cutting, a national no-net loss program could allow it, under the condition of replanting. Payments for environmental service programs could incentivize communities to maintain these “rainforests of the sea.”

TARGET: utility ratepayers, building companies, individual home builders

IMPLEMENTING ACTORS: Water Authority, Ministry of Works, Transport and Public Utilities Water and Sewerage Department, SOPAC, Live and Learn

SAMPLE IMPLEMENTABLE PLAN: Guttering systems are subsidized and mandatory on all new housing developments and retrofit on preexisting ones over a five year period. The rainflow into gutters is collected into rain cisterns.

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BARRIERS: upscaling to a national, systematic level; training for builders



Environmental governance and decision-making

GOVERNANCE: The source of environmental decision-making and policy

Sustainable development is not a new concept in Fiji. The Fijian National Sustainable Development Strategy is coordinated and participatory and seeks to address socio-economic and environmental objectives in a balanced way at the national and local level. It seems that Fiji could stand to benefit from a strengthening of integration of different sectors affiliated with environmental planning, though efforts are already being made in this direction.

Strategies could include:

1. Strengthening the formal links between NGOs and governments implementing environmental programs.

Benefits: This could enhance cost-sharing, and reduce redundancy. Viewing implementation as a network of government, intergovernmental organizations, and NGOs may help implement large, expensive projects in terms of both time and cost. NGOs also lack the capacity to regularly dialogue with government, a formalized relationship where NGOs are included in budgeting processes could strengthen formal relationships and build capacity to implement environmental programs.

2. Incentives that encourage individual behaviour change: Payments for environmental services, subsidies for renewable energy sources at the home level, subsidies for water catchment infrastructure in homes.



Parallels
**Examples from
Latin America**

Incremental “starter” core housing has been successfully implemented in Latin America since 1970’s



STARTER HOUSE



STARTER HOUSE INCREMENTED 1



STARTER HOUSE INCREMENTED 2

Incremental Housing

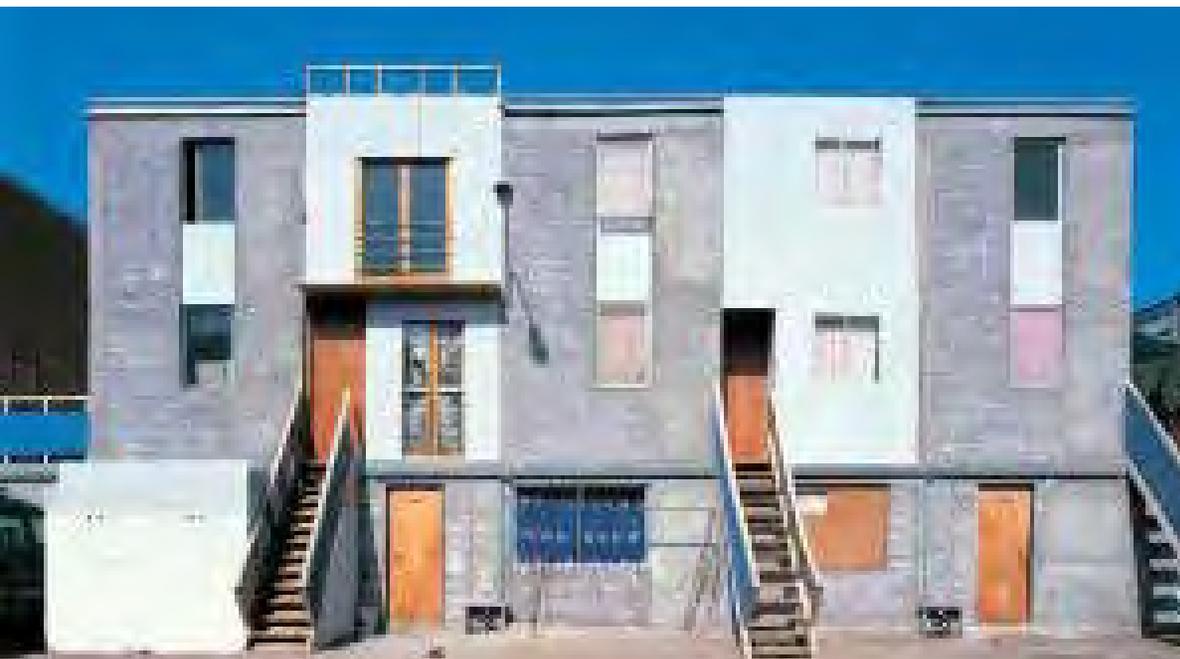
El Salvador, Chile, Colombia, Ecuador and Bolivia

This is one example of many incremental housing cases driven by the World Bank in 1970’s. A family that started with a basic core house given by the government and evolved with their own efforts into two story houses.

High density multistory incremental housing is cost effective when building affordable housing on expensive land.



STARTER HOUSE



HOUSE INCREMENTED

ELEMENTAL TYPE

Originally from Chile and spread throughout Latin America

Elemental started has an academic initiative by the Pontificia Universidad Catolica de Chile in 2002. Its goal is to avoid relocation of families in squatter settlements in expensive land close to downtown. They proposed multistory incremental housing to densify the use of expensive land.

Based on the fact that family houses are incremental to receive relatives immigrating to cities they proposed a core house that can be doubled in size when the family has the need to expand to accommodate relatives.

The architectural design is flexible to adaptations without losing its starter aesthetics.

Relocation of squatters at risk into multistory buildings with good connection to the transportation networks



ORIGINAL SHACKS



RELOCATION HOUSING



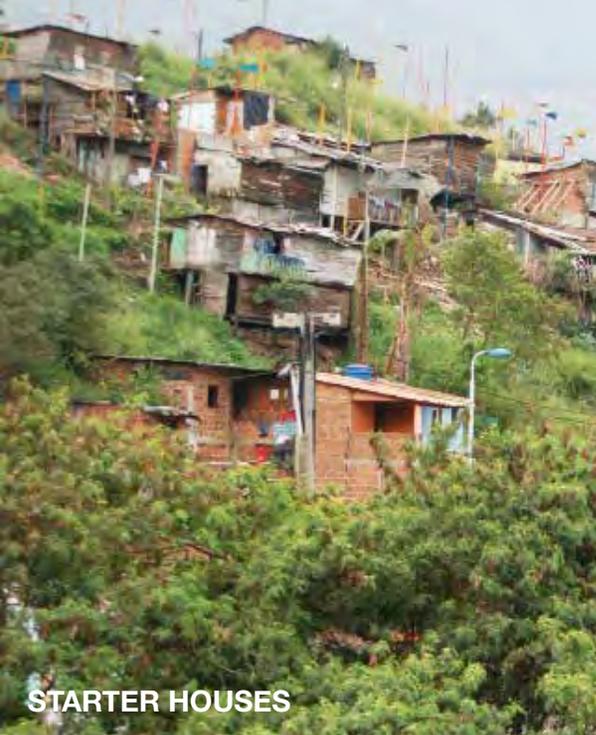
CABLE CARS

MORAVIA SETTLEMENT. Medellin, Colombia Local Government and Empresa de Desarrollo Urbano Medellin

Moravia is a squatter located in Medellin. A big part of the informal housing was located in a former dump site; for sanitary reasons it had to be relocated. A new public park was proposed by the government for the site and public housing was provided for the families that had to be relocated in a new site further from the city center but **well connected through new cable cars linked to the subway system.**

As families are relocated colorful sticks are placed on their house's former site with flags containing words to describe the community's dreams for the site.

Positive effects of public facilities on surrounding housing development.



STARTER HOUSES



CULTURAL CENTER



PREVIOUS CONDITION



AFTER URBAN RENEWAL



NEW CONDITION

New Public facilities such as the Cultural Center designed by the architect Rogelio Salmons and a new boulevard running along the creek have brought a new development force towards Moravia. The houses that started as shacks have become three story houses suggesting that **incremental housing is directly related to public space and infrastructure.**



Construction initiatives strengthen community engagement



Cerro El Bobo

Medellin, Colombia

The Urban Integration Project in Medellín aims to work for a social urbanism that integrates the informal settlements to the formal city. One of their goals is to integrate communities by teaching the people to build and work as a community.

Several bridges were built by the people living in the squatters joining different sectors and making new connections as part as a network of public spaces.



Low-budget small interventions have a positive impact on the community



ART INTERVENTIONS



SPORTS INTERVENTIONS



ART INTERVENTIONS



PUBLIC SPACE

Urban interventions in Petare

Caracas, Venezuela

The municipal government of Petare has focused its resources in building small low-budget public spaces all over their squatter settlements.

Their goal is to reach as many communities a possible and provide significant public spaces where many diverse activities take place. They have invited local artists to work with simple materials and add an aesthetic value to the new interventions.



Stunning catalytic public facilities reinforce social inclusion and community self identity



**Libraries Community Building
Medellin, Colombia**

The Municipal government as developed a new typology called: "Parques Biblioteca" as a key part of slum upgrading. Architecture competitions are organized to choose the best project and it is build with the best architecture quality available.

The positive impact of this new public building has been evidenced by reduction of crime and housing upgrading on their surroundings.



3 INCREMENTAL PERSPECTIVE

ADDRESSING SPEED AND SCALE
CULTURE/INCOME/REGULATION

IDEAS AND SUPPORTING POLICIES

SQUATTERS
RELOCATION
UPGRADING
TRANSFORMATION

INCREMENTAL HOUSING IS INHERENT TO FIJI...

INCREMENTAL HOUSING IS INHERENT TO FIJI...

CULTURE SUPPORTS IT

“Throughout time, Fijian people have a long tradition of expanding their homes”



INCREMENTAL HOUSING IS INHERENT TO FIJI...

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INCOME GROUPS SUPPORT IT



INCREMENTAL HOUSING IS INHERENT TO FIJI...

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“Throughout time, Fijian people have a long tradition of expanding their homes”



INCOME GROUPS SUPPORT IT



REGULATION SUPPORTS IT

Town Planning Act Chapter 139

Extentions to Terraced and Duplexed Units may be permitted at the rear subject. For **Duplex**, Two Storey **extentions** may be permitted to two storey duplex units provided the adjoining owners agree to at same time.

Building height. The height of the residential building shall not exceed **3 storeys**.

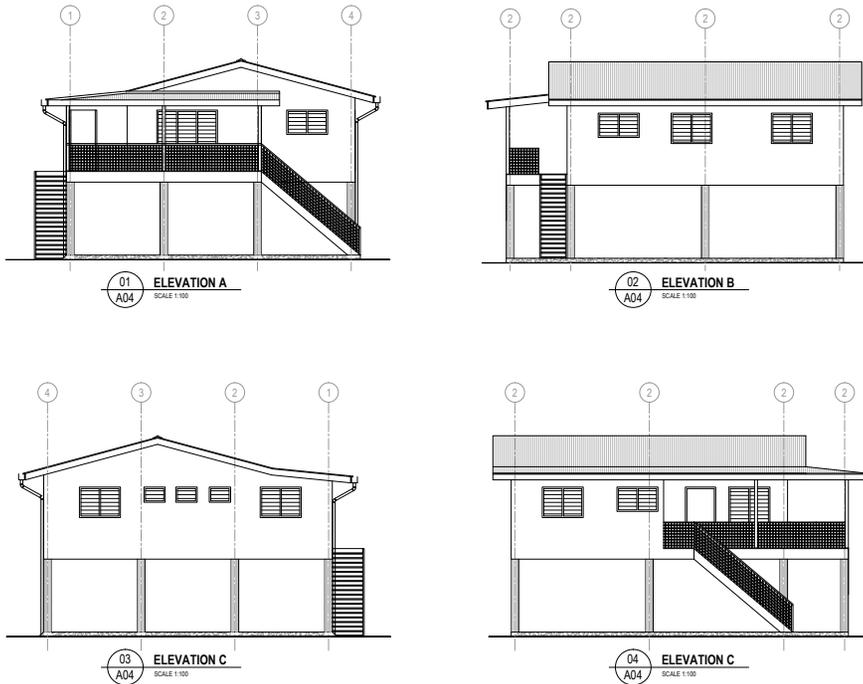
Conclusion

Minor adjustments to the Town Planning Act and National Building Code could greatly increase the implementation of the incremental building

AN INCREMENTAL PERSPECTIVE OF THE EXISTING HOUSING

STARTER CORE STRATEGY

1. NEW DWELLING FOR MR. + MRS. NAMAKADRE
2. YASIYASI HOME DESIGN
3. AGRICULTURE VILLAGE PROGRAM



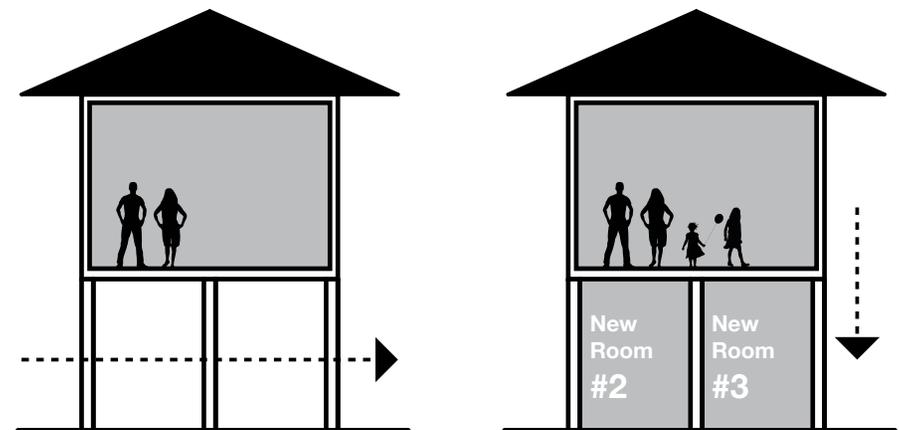
Top Down approach could be ecologically responsive and easily implement incremental growth in Fiji

New Dwelling for Mr. + Mrs. Namakadre
 Lesikau @ Lot 34, Navosai
 HOPE FIJI

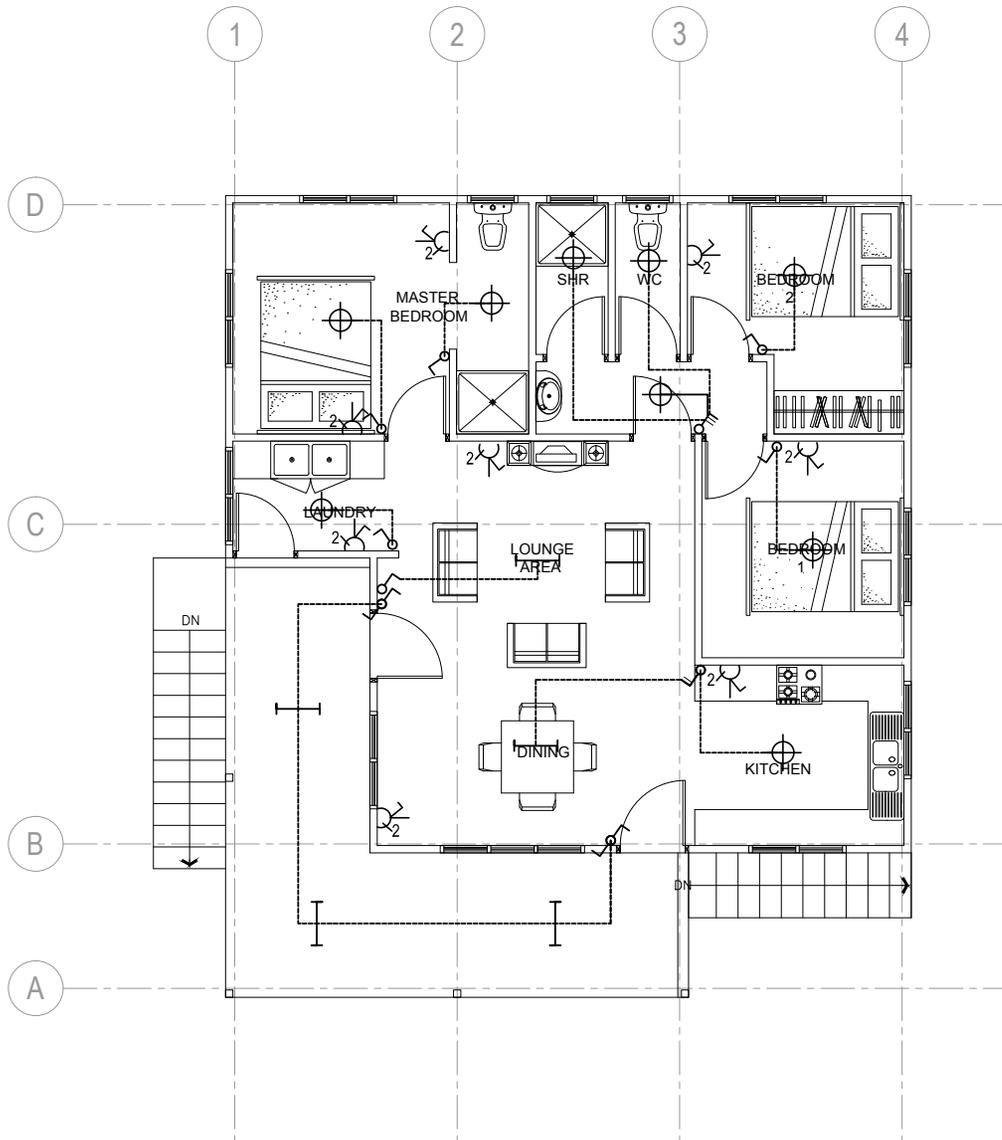


Plans and Photos courtesy of Wade Evans, HOPE Fiji (Housing Options Production Enterprize)

A current house project which is being employed in Fiji, uses quasi-incremental building techniques as well as offers a good ecological option due to being lifted off the ground. Can affordable housing use similar strategies? What is just a roof is constructed?



INCREMENTAL PERSPECTIVE

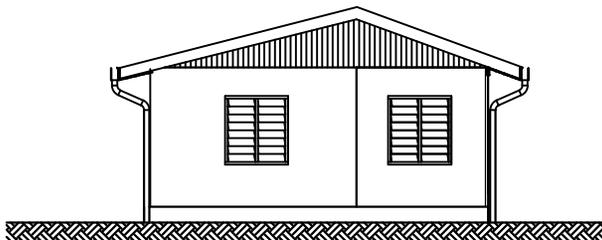
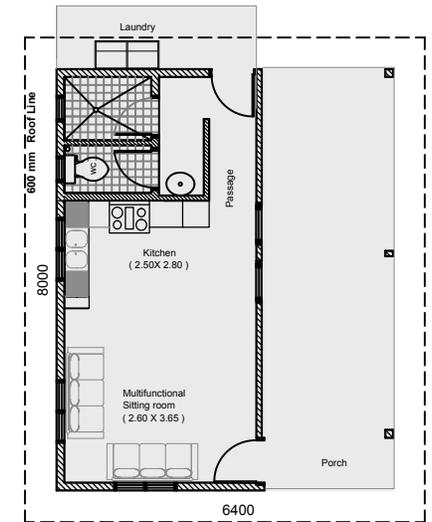
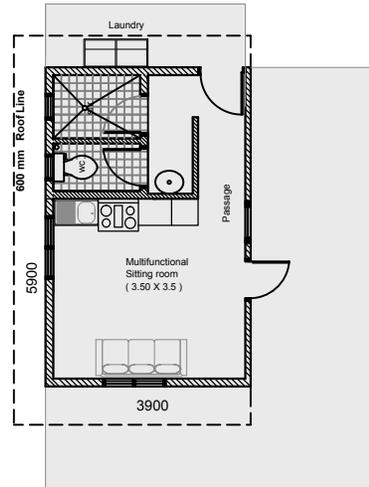
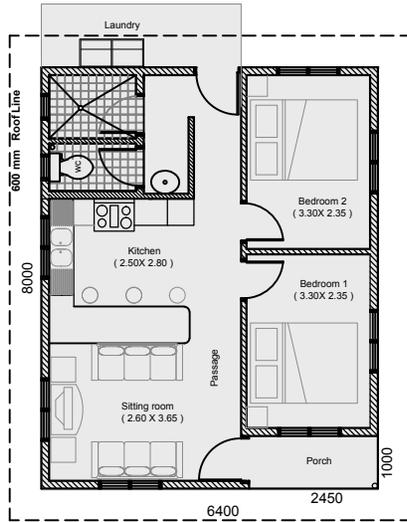


Plans and Photos courtesy of Wade Evans, HOPE Fiji (Housing Options Production Enterprise)



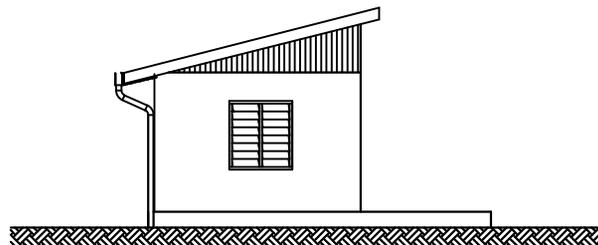
STARTER CORE STRATEGY

YASIASI HOME DESIGN



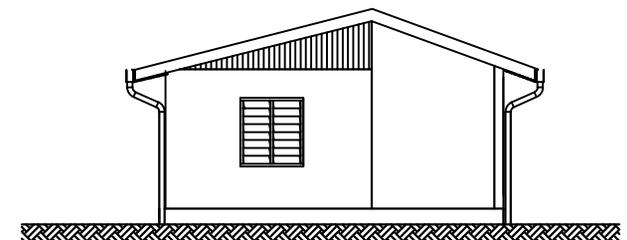
YASIASI HOUSE DESIGN

100%
 cost 33,662\$



STARTER HOUSE OPTION 1

30%
 cost 10,099\$



STARTER HOUSE OPTION 2

60%
 cost 20,197\$



STARTER CORE STRATEGY

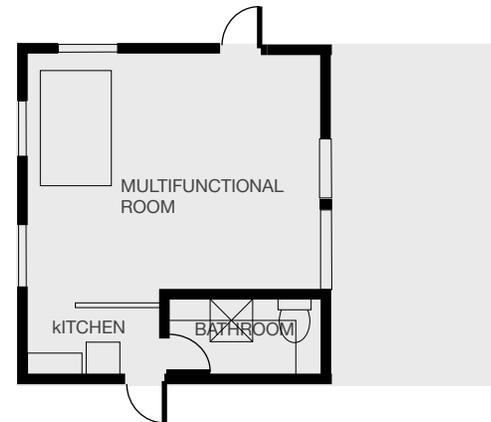
AGRICULTURE VILLAGE PROGRAM



LOMAIVUNA HOUSE DESIGN

100%

cost \$26,052



STARTER HOUSE OPTION 1

60%

cost \$15,631