

**Aasenso sa Green and Clean,  
FEDROW**

*(Family-based Ecological Diversion  
and Recycling of Waste)*

Pasay City Cooperative Development Office

MDGs  
efforts put  
to zero





Yolanda devastated Samar and Leyte



Yolanda claimed almost 8,000 lives

# Earthquake/Tsunami in Japan 2011







19,000 lives claimed by  
Tsunami in Japan 2011





Indonesia Tsunami claimed 280,000 lives



Indonesia Tsunami



A meteor  
hits  
Russia





• Haiti devastated by earthquake



Haiti earthquake death toll: 316,000

# Experts predict more calamities to come



## LANDSLIDES

# FLOODS



# VOLCANIC ERUPTION





# VOLCANIC ERUPTION



# EARTHQUAKE



# EARTHQUAKE



SINKHOLE





# METEOR SHOWERS

The image features a black background filled with numerous bright, white, diagonal streaks that represent meteor showers. These streaks are of varying lengths and thicknesses, creating a sense of depth and movement. The streaks are oriented from the top-left towards the bottom-right. In the bottom-left corner, the words "METEOR SHOWERS" are written in a bold, white, sans-serif font.

**METEOR  
SHOWERS**



# 4 BLOOD MOONS

# Local Situation

- 20 or more typhoons a year
- Located in the ring of fire (surrounded by active and inactive volcanoes)
- Earthquakes and Fire
- Flash Floods, Tsunami, Storm Surge
- Water shortage, Energy shortage
- Food Shortage, Food contamination
- Health threats (HIV/AIDS, Killer virus)
- Poverty, Garbage, etc.



# 8 Millennium Development Goals

- 2000 MDG commitment: Halve the no. of poor by 2015
- MDG Localization in every region, province, city, municipality and barangay

MDG1: Eradicate extreme poverty and hunger

MDG2: Achieve universal primary education

MDG3: Promote gender equality and empower women

MDG4: Reduce Child Mortality

MDG5: Improve Maternal health

MDG6: Combat HIV-AIDS and infectious diseases

MDG7: Ensure Environmental Sustainability

MDG8: Develop Global Partnership for Development

# Family MDGs

MDG1: Aking Pamilya may pagkain, may trabaho at may impok pa.

MDG2: Lahat ng aking anak nag-aaral

MDG3: Babae at Lalaki, pantay ang karapatan

MDG4: Sanggol na malusog, minimithi ng lubos

MDG5: Ligtas na buntis, laging isa-isip

MDG6: Iwasan HIV-AIDS at nakakahawang sakit:

NAKAMAMATAY

MDG7: Aking tahanan at kapaligiran, Laging alagaan

MDG8: Kung sama-sama, lahat ay kayang kaya

# Pasay's Strategic Action in Response to MDGs during Hard Times

- Spiritual Preparation by partnering with the FBOs highlighting Prayer and Intercession
- Adhere to CDO's 4 Core Values
- Align and Harmonize the best practices with the CBMS and the MDGs
- Partnership and Cooperativism, the elements of good governance



# FBOs Firmly Believe

Disaster

Disaster can be prevented by:

- Prayer & Intercession (Gen 18:17-33)
- Humility & Repentance (2Chron 7:14)
- Faith in God (Eph 2:8-9)
- Corporate Prayer (Mat 18:18-19)

# Disaster Management

(FBO-oriented DRRM)

## *PROTECTION PROCESS*

**DEVELOPMENT**

**HRVA**

**PREVENTION**

**MITIGATION**

**PREPAREDNESS**

**INTERCESSION**

**DEVELOPMENT**

**REHABILITATION  
RECONSTRUCTION**

**RELIEF**

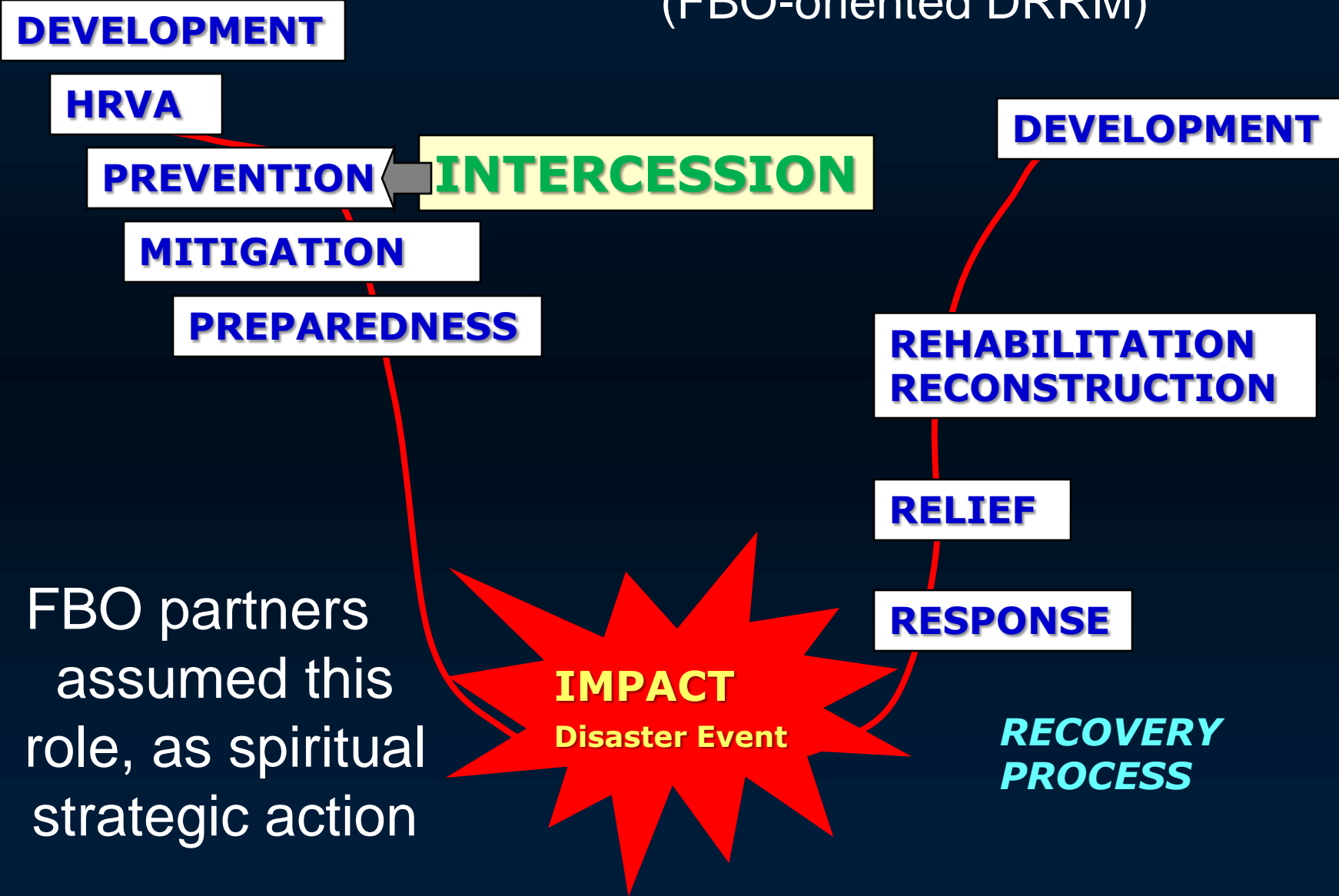
**RESPONSE**

**IMPACT**

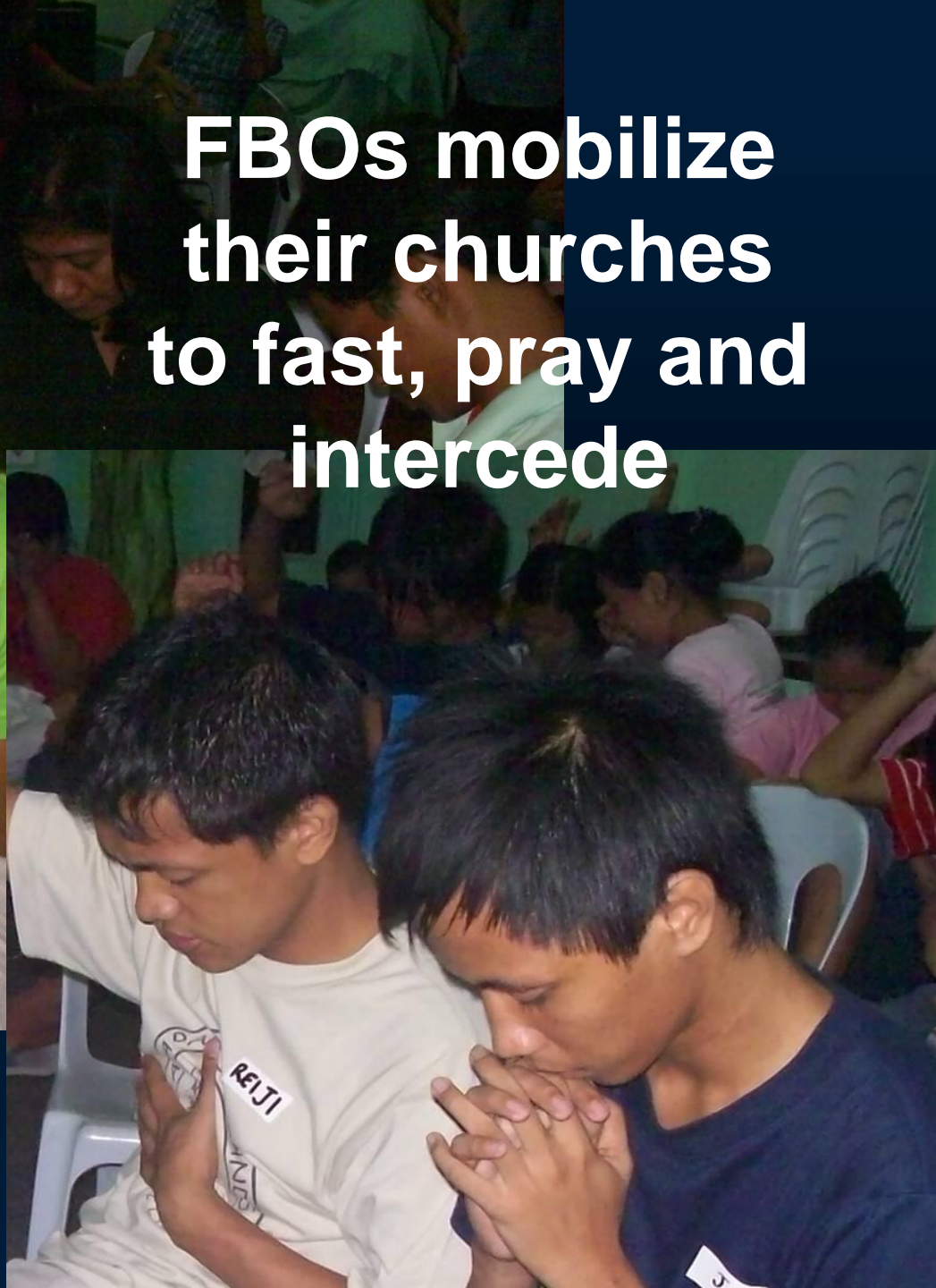
**Disaster Event**

*RECOVERY  
PROCESS*

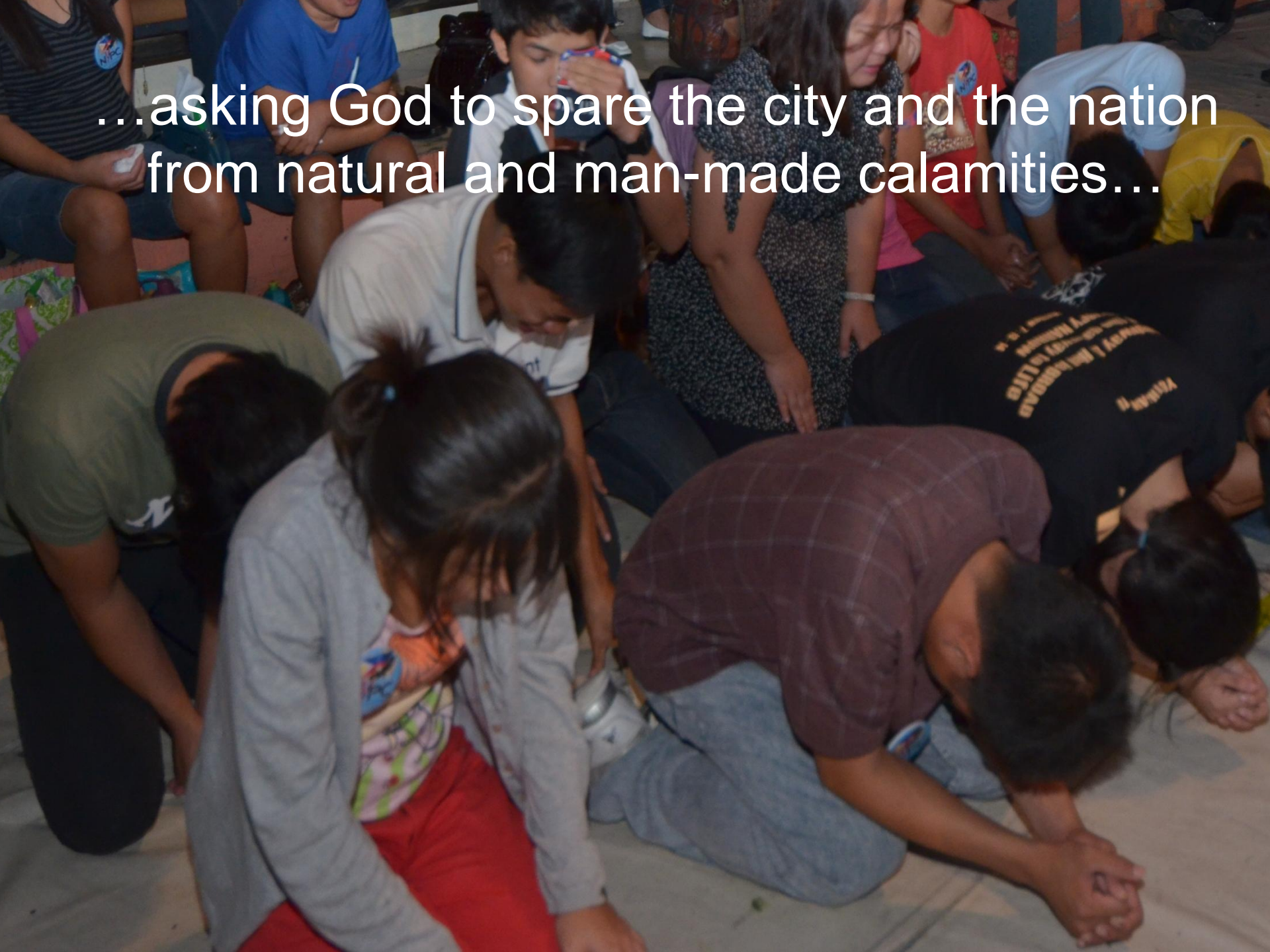
FBO partners  
assumed this  
role, as spiritual  
strategic action

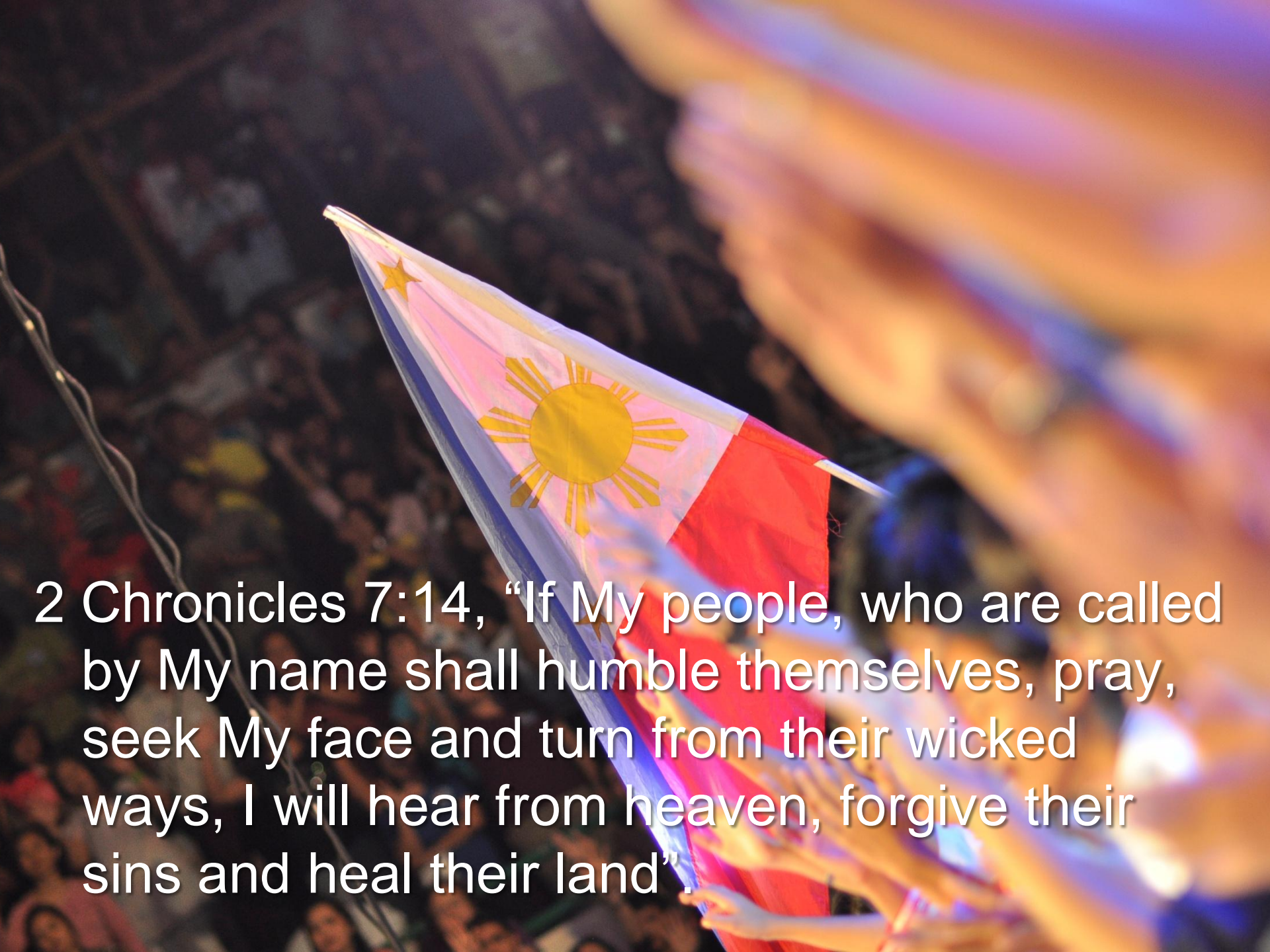


**FBOs mobilize  
their churches  
to fast, pray and  
intercede**



...asking God to spare the city and the nation  
from natural and man-made calamities...



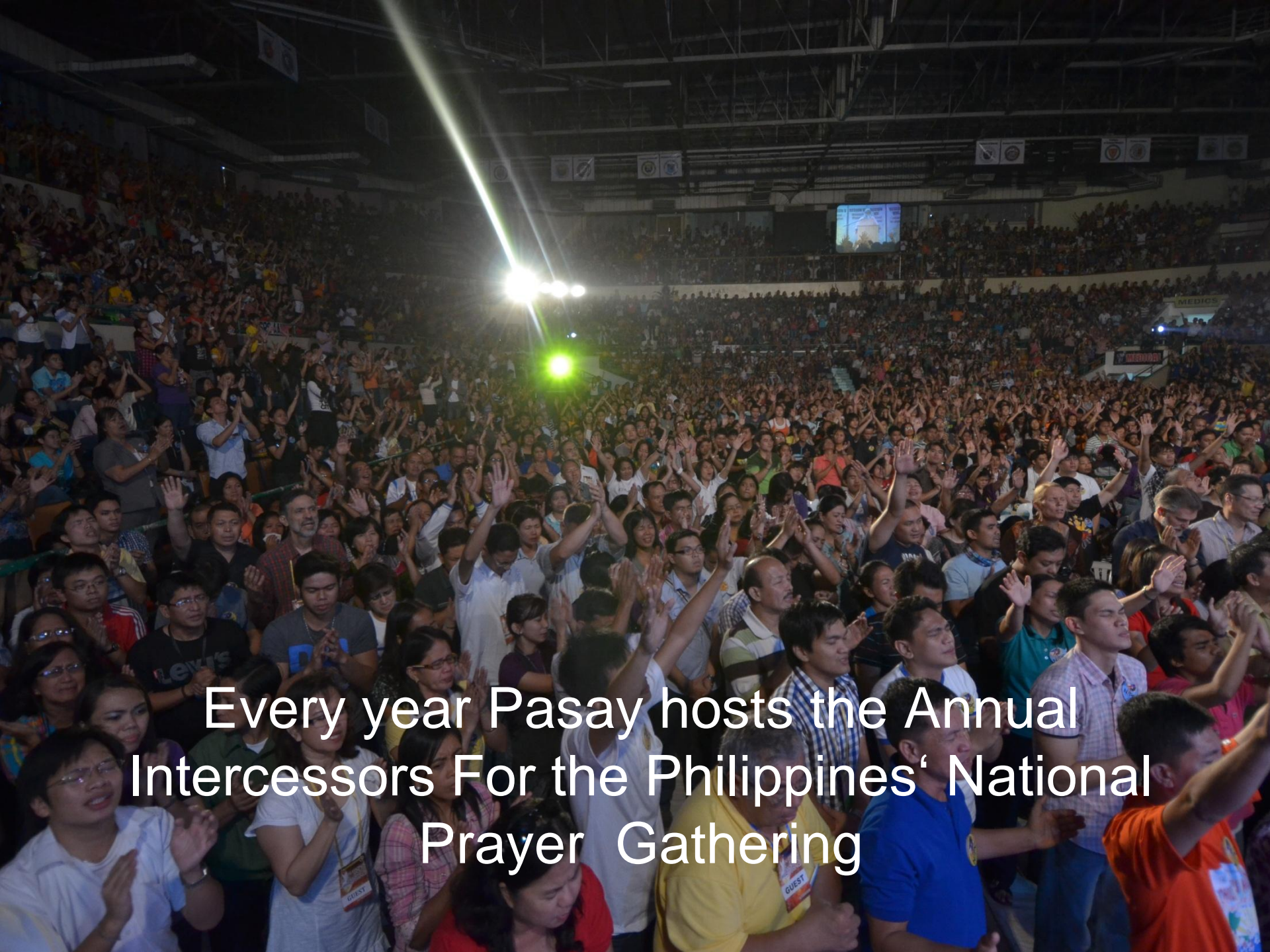
A large crowd of people is gathered at night, many holding up Philippine flags. The flags are illuminated by warm, golden light, creating a vibrant and celebratory atmosphere. The background is dark, with some blurred lights and the silhouettes of people in the crowd.

2 Chronicles 7:14, “If My people, who are called by My name shall humble themselves, pray, seek My face and turn from their wicked ways, I will hear from heaven, forgive their sins and heal their land”.



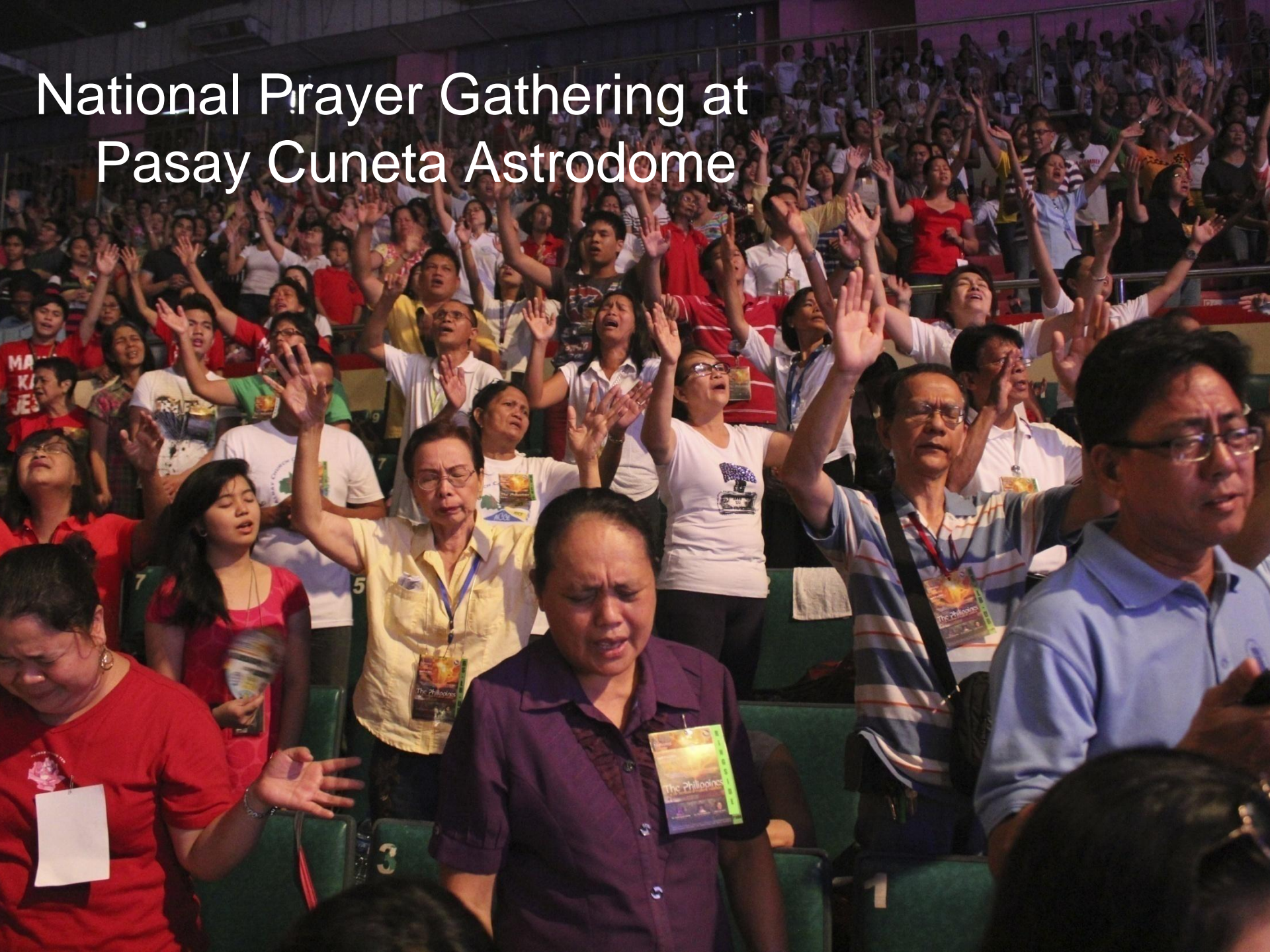


**PHILIPPINES,  
RETURN TO GOD**



Every year Pasay hosts the Annual  
Intercessors For the Philippines' National  
Prayer Gathering

# National Prayer Gathering at Pasay Cuneta Astrodome



A large crowd of people is gathered in a stadium or arena, many with their hands raised in prayer. The scene is illuminated by bright lights, and the atmosphere appears to be one of collective devotion. The text is overlaid on the image, centered horizontally and vertically.

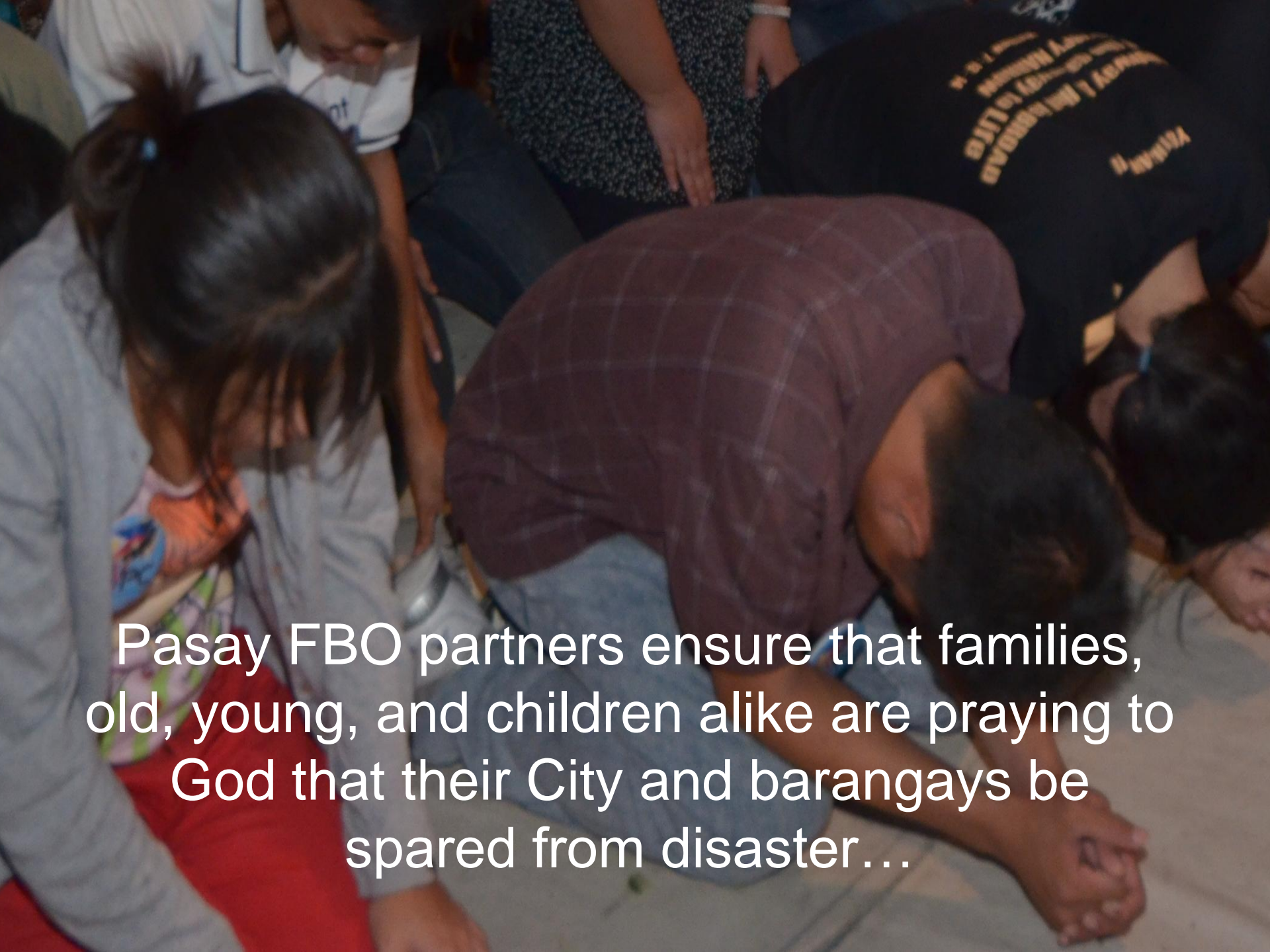
...an atmosphere of corporate intercession  
and prayers for the nation against  
calamities and disasters



Asking God for forgiveness,  
mercy, and grace...

Telling God that in His holiness and in times of judgment, remember mercy.





Pasay FBO partners ensure that families, old, young, and children alike are praying to God that their City and barangays be spared from disaster...

# Pasay City Cooperative Development Office (CDO)

- All CDO cooperative development and livelihood projects must operate under the PRISCA principle. Practical, Responsive to MDGs, Innovative, Cooperative Action
- Adhere to CDO's 4 core values.
- Align and Harmonize the best practices with the CBMS and the MDGs
- Partnership is the key to good governance. Most of our partners are Faith-Based Organizations (FBOs).



# 4 Core Values

**“No God No Success”**

**“Seek the welfare of the city  
where you live”**

**“Power in Unity”**

**“Strength of family, Power  
of Community”**

- No God, No Success: Communists almost conquered the whole world..., New Peso bills where Bible verse inscripted...
- Seek the welfare...Get involved with DRRM Council in the barangay, city
- Unity: Organize self-help groups, cooperatives, savings and loan associations
- Family: Translate the global into family-based MDGs. Each family must achieve the 8 Family MDGs (minimum family goal)
-

Existing Program:  
Aasenso sa Green and Clean,  
FEDROW (Family-based  
Ecological Diversion and Recycling  
Of Waste)




## CRITICAL ISSUES:

- The garbage crisis is real, serious, and poses even grave threats to public health if not resolved.
- The root causes of the problems are not technical or financial, but rather relate to governance and political will.
- We owe it to the next generation to resolve this crisis now.

# Executive Order 26 Series 2012:

Aasenosa Green and Clean:  
FEDROW (Family-based  
Ecological Diversion and  
Recycling Of Waste) System, a  
family response to RA 9003,  
food security & malnutrition

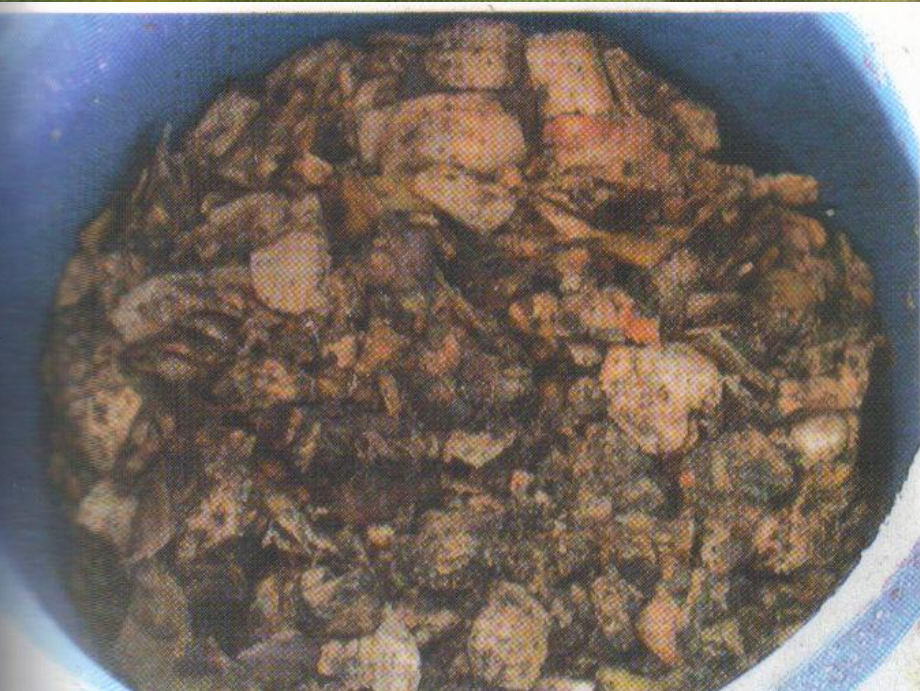
City Ordinance No. 5631,  
Series 2014:  
Recognizing and  
Institutionalizing the Family-  
based Ecological Diversion and  
Recycling Of Waste (FEDROW)

- 
- Inspired by a 92-year old Pasayenyo named Mang PEDRO who despite his age still segregates and collects garbage for income, the *Family-based Ecological Diversion and Recycling Of Waste (FEDROW)* System was conceived.

- FEDROW System is a set of home-based livelihood skills training that mobilizes the households to address RA 9003 particularly the biodegradables at their level. It mobilizes and equips one family at a time.



- It popularizes “*Basura ko, Kayamanan ko*” or “*Zero basura ko sa bahay*” or “*Zero Waste Zero Pest*” at the community level. The equipping is hands-on using starter kits that would allow the participants to experience first hand the operational process, monitor the progress and start a small enterprise at home



# 1. Kitchen Waste Recycling

## EMA, Bokashi making, using Effective Microorganisms (EM Technology)

## **2. BUHAY, Bayanihan Urban Hydroponics for Abundant Yield,**

BUHAY is an MDG-based, food security, hunger mitigation and improved nutrition program

Aims to address the increasing number of poor families experiencing malnutrition and hunger, also to provide a sustainable means of income.

Mobilize more low income families to grow their own food.

90% materials are recycled



Learning to grow your own food is inculcated in the minds of the residents.



They are equipped not to remain plain consumers but producers...

April 18, 2009



Growing own food is your Path to Freedom



December 18, 2009

### 3. Learn to grow Wheatgrass in 8 days.







## 4. Vermi farming/composting for organic fertilizer production.

- Vermi-worm vertical farming using recycled styropore boxes.
- Designed to raise African night crawler worms in styropore boxes filled with fermented kitchen waste as worm feeds stacked on top of the other known as vermi-tower reactors.
- The process can produce high grade organic fertilizer and vermi-worms for sale.

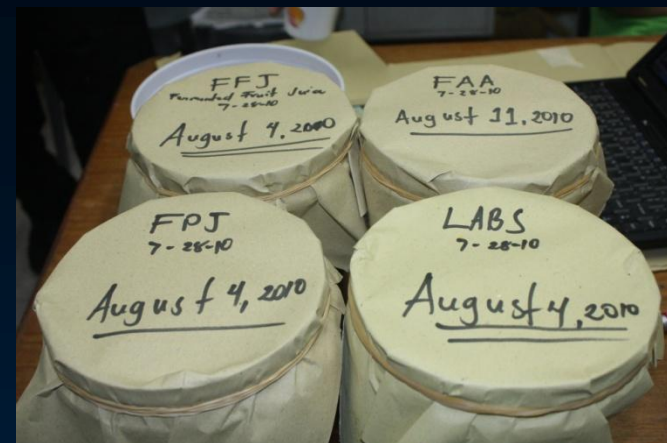
# 5. FAITH (Food Always In The Home)

## FAITH Bag or Sack Gardening



To ensure Food Always In The Home, Faith Bag Garden shall be shared to the low income households. 10 Faith bag gardens can feed one family of 5.

# 6. Home-made Organic Pesticides/Herbicides.



**BIO-ORGANIC FERTILIZERS FROM "IMO" CULTURE  
(Indigenous Micro Organisms)**

# 7a. Wall Gardening and Edible Landscaping



# 7b. VIEW Project: Vegetables In Every Wall





















20 sqft grow bed can feed  
one person year round







**8. FLAME Project:  
Family –  
Led  
Action  
Making  
Energy  
“Biogas”  
(Using Kitchen Waste)**



**9. SHARE  
Project:  
Sustainable  
Home-based  
Action  
Restoring  
Energy  
“Biodiesel”  
(Using Used Oil)**





# Home-made Biodiesel



# Biodiesel Soap (Using Used Oil)



# 10. STYROCRETE



**STYROCRETE.**  
Light weight  
concrete using  
shredded  
styropore beads  
mixed with  
equal volume of  
sand and  
appropriate  
cement to make  
self-watering  
light weight  
concrete  
containers

# 10. STYROCRETE

- **Shredded styropore boxes mixed with equal volume of sand and appropriate amount of cement will make beautiful light weight concrete planters and plant pots using home-made moulders.**



# 11. Small wetland system

- Small wetland system for kitchen waste water (gray water). Wastewater passing through the aerobic root zones of the plants is cleaned by the microorganisms that consume organic nutrients while the plants uptake nitrogen and phosphorus making the water safe for reuse.





## 12. Fiber Glass Making





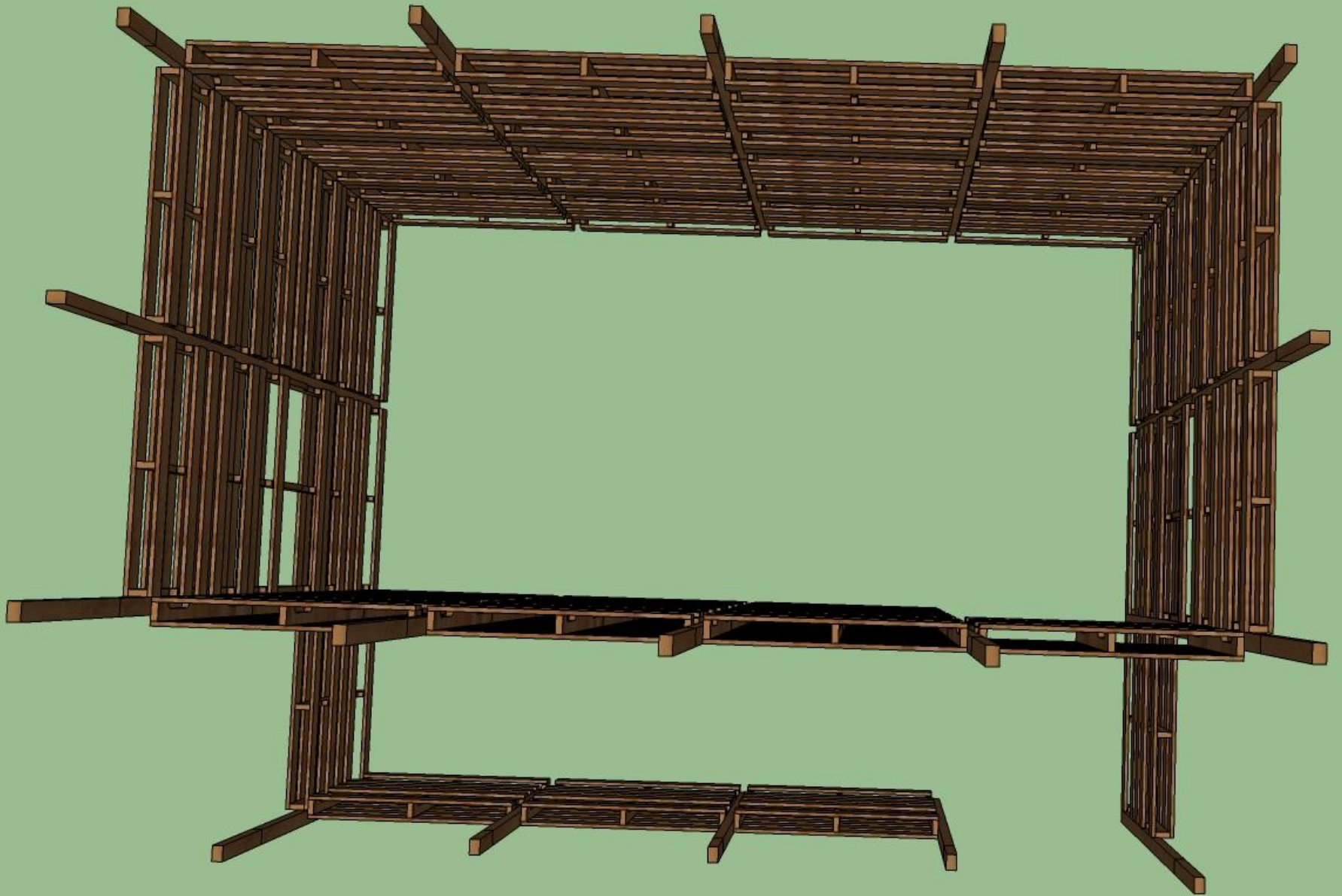


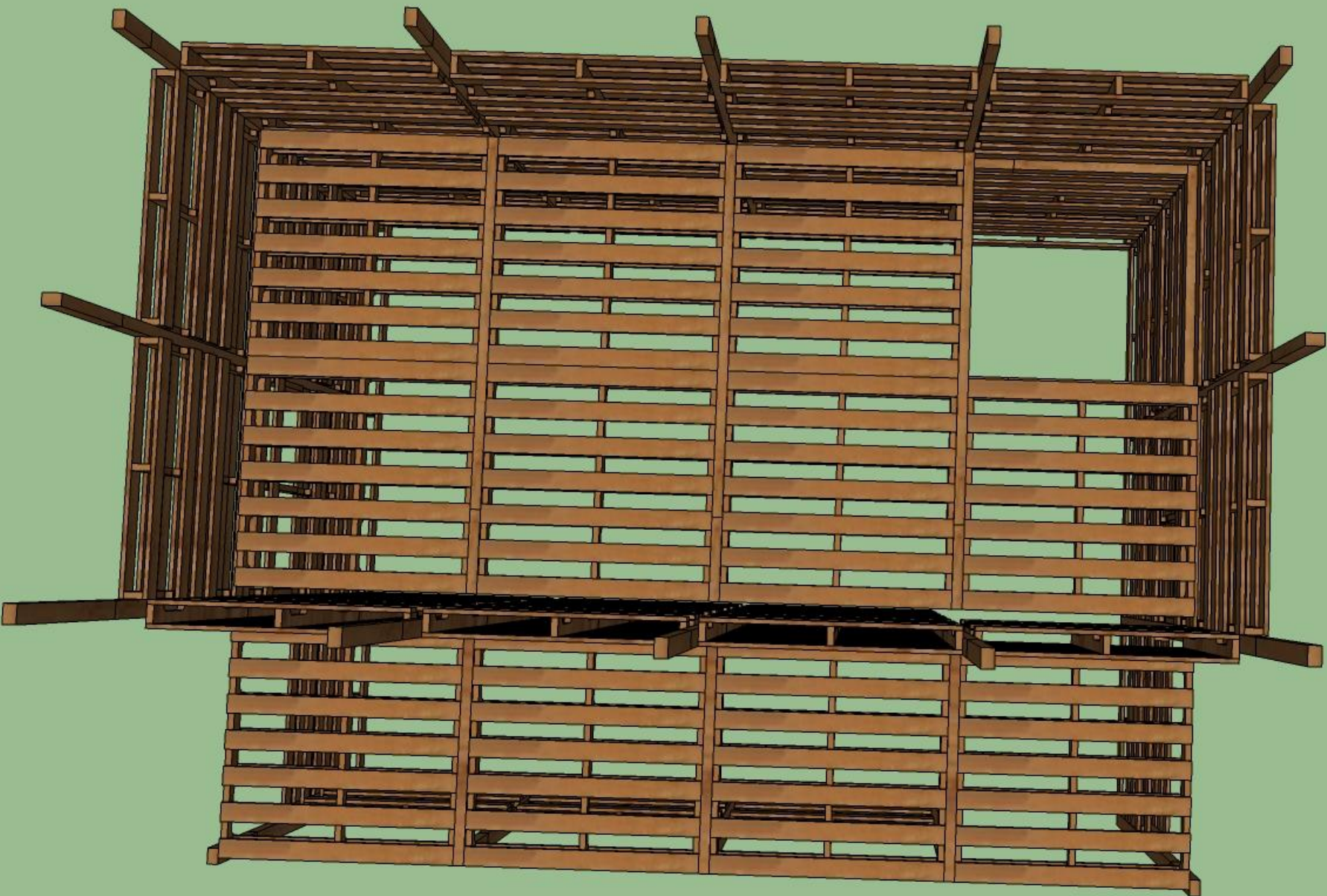
# Solar-powered AMELIA Greenhouse

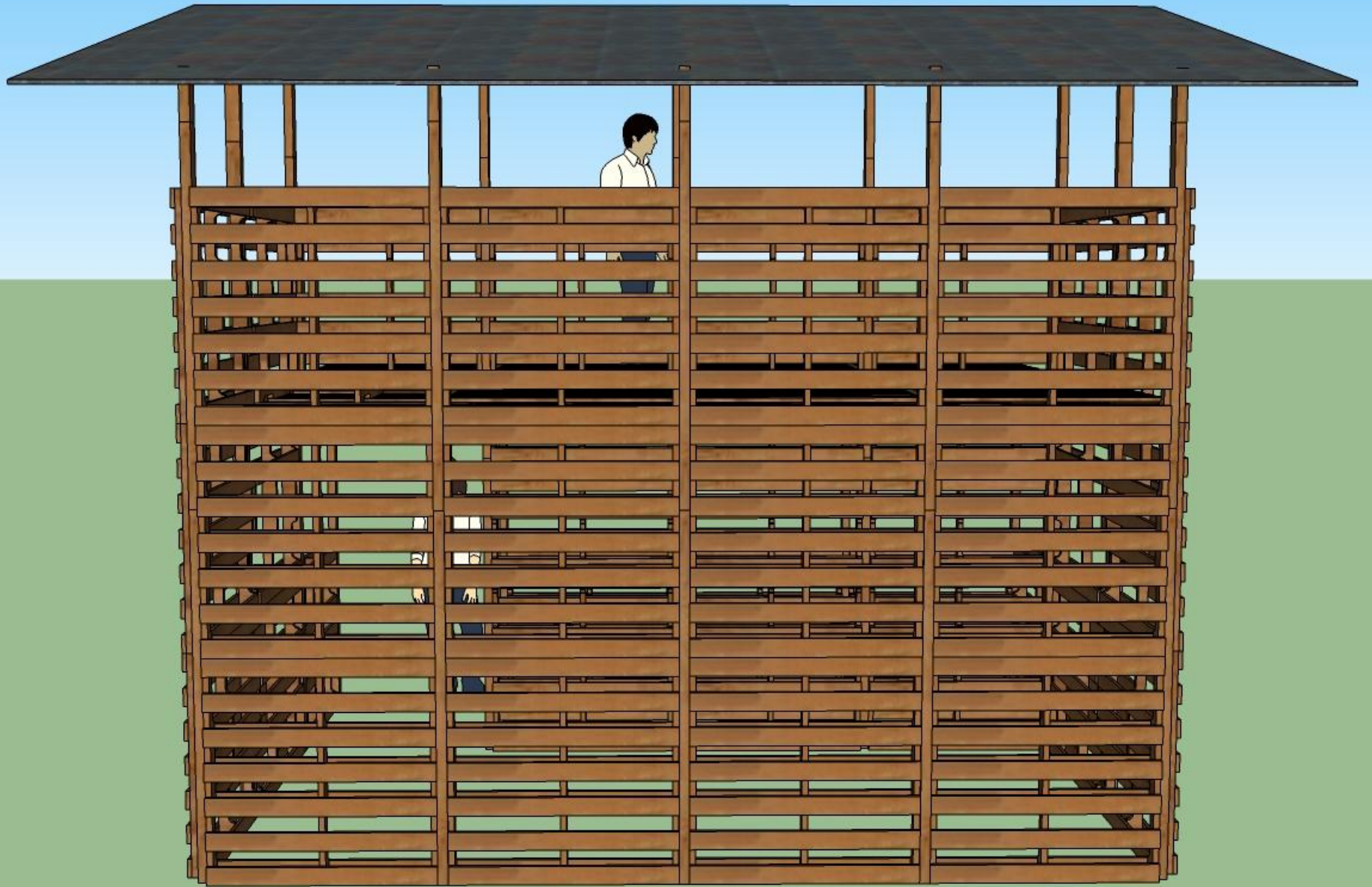
- AMELIA (Alternative Micro Ecological Life-support In-city Aqua-vermiponics)
- Grow your own vegetables, fish, shrimp, vermiworms anywhere
- Self watering, Self fertilizing (guaranteed organic)
- Housed in a strong, sturdy, agri-tecturally designed wooden pallet greenhouse

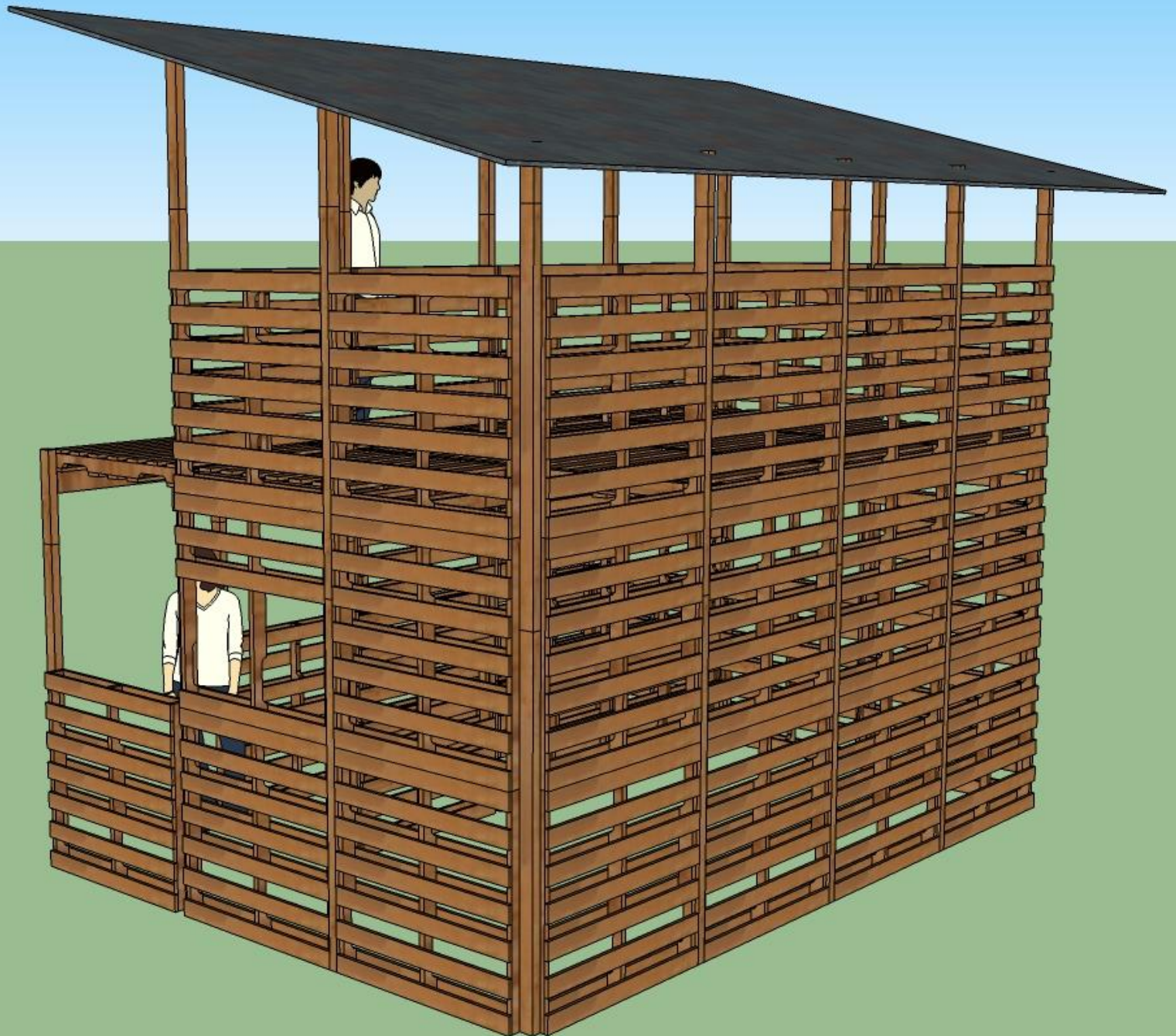














# FEDROW Demonstration Sites

## Gaining Visitors

- FEDROW Demonstration sites comprised urban-ready, modular and easy to-be-built and installed gadgets and equipments.
- It features vertical farming, edible living wall gardening, sub-irrigated planters system, hydroponics, aeroponics, aquaponics, aqua-vermiponics, tower gardens, kitchen waste recycling, etc.

- Isinulong ni Mayor Calixto ang Aasenso sa Green and Clean: FEDROW upang hindi na maulit ang Ondoy experience, na sa loob ng 3 buwan walang supply ng gulay/pagkain ang Metro Manila. This is a food security and hunger mitigation program as well as a disaster and risk reduction management strategy.



**Growing own food is your Path to Freedom**



- **Iminumulat din sa mamamayan lalo na sa mga kabataan na ang pagtanim ay Masaya, magaan, kapakipakinabang, hindi nalilimitihan ng space. Kasi ay wala na tayong young farmers**



Ayaw nang magfarm ng kabataan dahil sa old mindset na magtanim ay di biro maghapon nakayuko, Di na makatayo, dina makaupo. Gusto ni mayor na baguhin ang old mindset na ito at mag-train ng maraming young urbanfarmers, sa paniniwalang, “Sigurado ang pagkain, kung marami ang nagtanim”.



- **Food security increases as the number of urban farmers increases. Nagtayo ng AGC FEDROW demonstration site sa Jose Rizal Elementary School grounds para imulat ang mga bata.**



- At sa Senior Citizen's grounds nakatayo ang FEDROW Research and Development Site. Sa lugar na ito nadevelop ang aqua-vermiponics o AMELIA (Alternative Micro Ecological Life-support In-city Aqua-vermiponics).

# Alternative Micro Ecological Life-support In-city Aqua-vermiponics (AMELIA)

- Growing fish, vegetables and shrimps using organic fertilizer thru Aqua-vermiponics will relieve the burden on marine ecosystems, ease pollution, and conserve water while providing quality protein and vegetables to communities anywhere.
- AMELIA envisions “growing fish, vegetables and shrimps anywhere”.



- Ito ay symbiotic system na kung saan ang ibat-ibang biological organisms or species ay nabubuhay nang magkakasama tulad ng isda, hipon at gulay na sinamahan din ng pag-aalaga ng vermiworms para maka-produce ng ligtas, dekalidad, walang pesticide at healthy organic food.







- Tinutularan ng AMELIA ang natural ecosystem sa paggawa ng pagkain. A 20 square ft growbed can feed one person year round. Increasing to 100 square ft growbeds can feed a family of 5 year round. Producing vegetables, herbs and tilapia.



- Natutuwa din ang mga amo ng bahay nang ang kanilang kasambahay ay natuto ng hydroponics at vermicomposting. Sa maliit na space at soilless medium tumubo ang letsugas, petchay, basil at tarragon.



# Strategy for Program Sustainability

- Establishment of Demonstration Sites (Senior Citizen's Place, Market, School-based, Church-based, Hankins, Home-based site, etc.)
- Demonstration sites are strategically located where participants can choose which FEDROW module is applicable in their barangay.
- Demonstration sites are to be managed by partners (FBOs, Barangay officials, Community-based Cooperatives, partner Family)
- Executive Order 26 s-2012 (June 14, 2012)
- City Ordinance 5631, Series 2014

# AMELIA

## DEMO-SITE AT

### BGY 91



# PASAY SPORT'S COMPLEX DEMO-SITE



# JOSE RIZAL ELEM SCHOOL DEMO-SITE



# HANKINS MRB DEMO-SITE



# Pasay Public Market Parking, 3<sup>rd</sup> Floor





# REPLICATION

(Aug 7, 2012)



**Mayor Calixto Cataquiz of San Pedro, Laguna,  
sent a 25 man-delegation to replicate  
FEDROW System**





Mayor Joey Medina of Pateros visited FEDROW Demo Site and made arrangement of replicating the system in the municipality of Pateros (Oct 10, 2012)







Bong Feniza of Radio ng Bayan, Mega Patrol in partnership with Sagip Bansa, Intercessors For the Philippines aired *Pamilya ko Aasen* sa FEDROW System every Saturday 4-5 and 5-6 P.M. Radyo ng Bayan for media promotion.



- UNICEF – UK visited FEDROW sites and community (Jan 2012)





**July 13,  
2012**



**Lilok, an NGO wants to replicate FEDROW in Tanay**



# LILOK





Manresa Jesuit Retreat  
House Sisters (Aug 28, 2013)



20 sqft grow bed can feed  
one person year round









100 sqft grow bed can feed  
a family of 5 year round



# Mayor Lani Cayetano's Team from Taguig City (September 5, 2013)







# FEDROW featured in Manila Bay Clean-up, Oct 5, 2013 Cooperative Month







GARDEN NG PAMILYA  
EVERY HOME  
USING SUB IRRIGATED



Aasenso ka sa Green &











MI-CHELO TOWER GARDEN

FIRE

MI-CHELO TOWER GARDEN



# FEDROW products, 10<sup>th</sup> Mega Balikbayan/OFW



Expo 2013,  
SMX  
Convent'n  
Center,  
MOA, Dec  
10-11, 2013

thru  
BAC and  
COOP  
partnership

# COOP & BAC PASAY GOVT.



EMERGE PHILIPPINES

Pushing City Environment  
Towards a Greener  
and Cleaner Future

**Green and Clean  
GROW**

Green Growth, Green Jobs, Green Water

DR. JOY CALIXTO  
MAYOR

Assessing  
Green and  
Clean

F  
F





LEADS FOR OTHERS

MAGASIN NG PANGUNAHANG MANGGAGAWA  
KALIXTO  
A Technology Product

Aansero sa Green and Clean  
FEDROW  
Aansero sa Green and Clean





SALE  
SALE

Amor & Gratitude Clean  
FEEDKOW

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TE  
WARD  
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30.com



Lasay City Government  
Pangasinan  
Agri-Industrial Zone  
DUPR - Davao  
enro sa **Green and Clean**  
**FEDROW**  
OF WATER  
YEAR  
**CALIXTO**  
NAYSA

enro sa **Green and Clean**  
**FEDROW**  
OF WATER

EMERSE PHILIPPINES



SALE

SALE



# Bay Garden Condominium, Metro Park, Macapagal, Pasay City





# Living Wall at the Bay Garden Lobby



Please don't feed  
the fish.

# Featured FEDROW Edible Wall and Vertical Gardening, Hydronet Consultants at DOST Compound, Banilad, Cebu City (April 16-18, 2012)



# Barangay Molino III

## Bacoor, Cavite





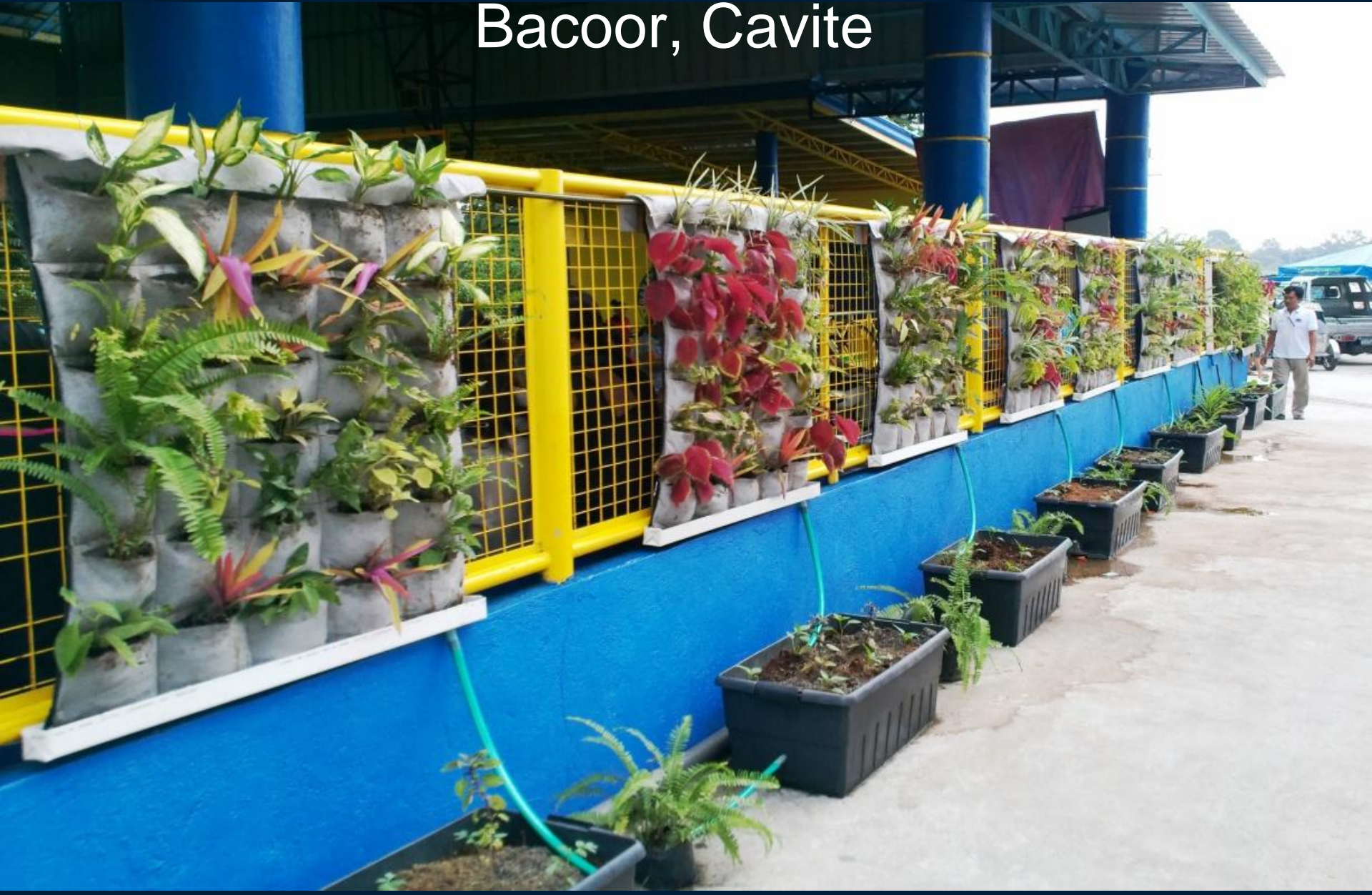
# Barangay Molino III

## Bacoor, Cavite



# Barangay Molino III

## Bacoor, Cavite





Pasay City, The Most Innovative Communal Urban Garden in Metro Manila  
Given by Department of Agriculture on September 20, 2013 at Southern Tagalog Integrated Research Center, Lipa City, Batangas



REP. BLDG OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
REGION 4-A (CALABARZON)



# 2013 AGRI-URBAN AGRICULTURE Pinoy



# Finalist for the National Literacy Award 2014





**VERTICAL WALL GARDEN**

A green wall is a wall partially or completely covered with vegetation that includes a growing medium, such as soil.

Most green walls also feature an integrated water delivery system.

Green walls are also known as living walls, BiOboards, biowalls, ecowalls, or vertical gardens.

**FEDROW**

Plant Production and Distribution Resources, On-Wall

**GYNURA**

**MORINGA**

**FENNEL**

OPEN

EST LA PAZ BATCH

PERA







# Hardin ng Pamilya Natin (Every Home A Garden)





# Every Home A Garden

- MDG responsive, Food Security program thru Aasenso sa Green & Clean
- PRISCA principle: Practical (materials are available), Responsive (addresses a need), Innovative (new & unique), Sustainable (income generating), Community Action
- Partnership project: Pasay Government, Barangay (HOAs, NGOs, Coops, Families, individuals, etc.)
- Training of SIP system, supply and installation: Pasay Govt Employees Coop (Prime Movers)

# ANALYSIS AND LESSONS LEARNED

- The issue on environment must be addressed seriously for no nation great or small is spared on the various disasters awaiting mankind. (NASA's report on the coming 4 blood moons in 2014-2015).
- Physical and Spiritual Preparations must be applied. Environmental damages are irreversible. Each must have shares in reducing, reusing and recycling wastes. However, the best way to clean the environment is to make the process profitable and income generating.

# ANALYSIS AND LESSONS LEARNED

- Promote equipping low income families to become food producers and entrepreneurs in converting the biodegradable and the non-biodegradable garbage generated at home, from trash to cash or waste to wealth.
- FEDROW's potential users are individuals, LGUs, barangays, associations, NGO's youth organizations, cooperatives, MFI's, schools and other institutions.

# ANALYSIS AND LESSONS LEARNED

- FEDROW is applicable in highly populated areas where available land for cultivation hardly exists.
- The constituents of these areas are usually consumers and are highly dependent on the goods or produce from provinces.
- Moreover, these areas are also great producers of garbage not only from the households but also from the industries existing in the area.

# ANALYSIS AND LESSONS LEARNED

- It is also applicable to those who are living in medium or high rise buildings such as condominiums for the system only requires minimal space.
- For every new technology that is being shared, acceptance rate is an issue. The main objective in sharing these ideas is for everyone and the participants of our trainings to immediately apply it in their respective homes, see for himself the result and prove it is doable.

## **ANALYSIS AND LESSONS LEARNED**

- There must be continuous promotion and support to those that had started the use of technology. Benefits must be highlighted to convince other community members to undertake the same.
- Raw materials should be readily available for continuous supply at the household level.

# Core Values

**“No God No Success”**

**“Seek the welfare of the city  
where you live”**

**“Power in Unity”**

**“Strength of family, Power  
of Community”**



# PARTNERSHIP, Key to Good Urban Governance

Maraming Salamat Po