

ABCDE CITY PROJECT

AQUA-AGRI BASED
COMMUNITY DEVELOPMENT
EXPORT CITY PROJECT

"A MICROCOSMIC ECONOMY"

The Rural Economic
Development
(RED)
Program



2020

PUBLICATION

UTILIZING
PROPRIETARY
TECHNOLOGY

BAMMTM AND
REBIFTTM

PROGRAM DESIGNED &
CREATED BY
SPIRE USA INC.

"WHERE HOPE TRANSMUTES INTO REALITY"

GOALS AND OBJECTIVES



Spire's primary **purpose, values & vision** lies in our commitment to **generate & provide opportunities** for **economic growth**, catalyzing **human resource development & welfare**, while preserving the environment through **Rural Community Development**.

Striving to create communities where poverty-ridden individuals are provided the **platforms & resources** for **education, entrepreneurship & employment**.

Irrespective of **social, cultural, or political** differences.

Paving the way for inclusive lasting **peace, health, security, sustainable socioeconomic development & growth**.

Extreme poverty ravages the lives of 1 in 4 people in the developing world.

Illiteracy, hunger, disease and unemployment are still widespread, and food security has become a scourge in many developing nations.

The City Project's are designed minimally at clusters of 2500 people/families, with social & economic growth projections involving humanitarian relief, renewable resources, the promotion of human capital development, self-sufficiency, including the development and adoption of new technologies.

Our mission is to empower populations living in poverty, whilst operating parallel to the UN's 17 Sustainable Development Goals.

Bringing forth a vast change and advancement in the livelihoods and standard of living, of the families pertaining to the ABCDE City Projects.

TO ASPIRE

Below is a brief account of the ABCDE City Project:

Pre-fab housing unit: 70 m2 area.
2500 two bedroom, dining room & living room + one toilet (with an overhead water tank.)

Standalone BAMMtm Unit: Backyard Applied Macrobiotic Module (BAMMtm).

Production: Any variety of fresh-water fish and over 40 varieties of vegetables.

Production Capacity: 100 kilos of fish and 800-900 kilos of vegetables per month.

Area required for a BAMMtm unit: 6x6 square meters.

Total Area required for the ABCDE City Project: 150 acres.

Employment / Household: 2 adults, full time.

Total estimated employments / ABCDE City Project: Approx. 5000 direct employments + 1000 indirect employments.

By products: 5000 +/- liters of water per day, per family.

Electricity: to burn 5 -6 bulbs of 75 W for 5 hours per day.

Equipment: Fish breeding Tanks. Vegetable grow beds. Solar Unit. Borehole water pump. BioFloc reactor. Power bank. Water storage Tank.

Harvesting: Every week, fortnight or month.

Certification: All products are 100% organic - there are no harmful chemicals or fertilizers utilized during production. Fish feed formula is custom curated by Spire off 100% organic ingredients & vegetables are by-products of the fish.



Ancillary Industries within the City Project:

- Security & City Management Office
- Hatchery
- Fish Feed Mill
- Seedlings Nursery
- Vegetable Fish Processing Plant
- Cold Room
- Logistics Office (transportation within the project site)
- Roads & Public Safety Features
- Vocational Training & Educational Center
- Recreational Club
- Daycare Center & a Primary School
- A Medium-Sized Supermarket
- A Bank Branch
- Center for Religious Activities
- Primary Health Care Unit with Medical Supplies
- Auditorium

BAMMtm (acronym: Backyard Applied Macrobiotic Module) is Spire's patented technology incorporating the growing of fish (any species of freshwater fish, in tanks atop the ground), a variety of vegetables (in grow-beds), and in certain environmental conditions, shrimp, within the convenience and space of a backyard.

Our proprietary **BAMMtm** units implement the **REBIFTtm** (acronym: Recirculation Biofloc Technology) mechanism, growing produce within a singular system, symbiotically. The unit operates through solar apparatus, borehole water pumps, and oxygen generators - without the use of soil, harmful fertilizers or pesticides.

Produce derived from our system yields **six times higher** in comparison to conventional farming techniques, and is **certified 100% organic**.



TO INSPIRE



THE 2500 FARMING FAMILY SELECTION PROCESS

THE RED PROGRAM - PER CITY CLUSTER

Families are evaluated & selected through a process based on their characteristics, interest and aptitude for farming. Including not possessing:

- A secure source of income
- Access to food
- Access to water
- Access to Medical Care
- Education
- Housing

Among several other fundamental basic human needs, amenities and resources.

A PROACTIVE, HOLISTIC, MULTI-FACETED APPROACH TO CRITICAL CURRENT GLOBAL CHALLENGES & THREATS TO POVERTY-RIDDEN & DISPLACED FAMILIES, ENABLING & PROVIDING THE OPPORTUNITY TO LEAD A HEALTHY, WHOLESOME INDEPENDENT, SELF-SUFFICIENT LIFE.

“

We create and extend collaborations and synergies across multiple fields, working towards a common goal - providing opportunities to those who have none.

- UPALI KARUNARATNA, CEO.

”



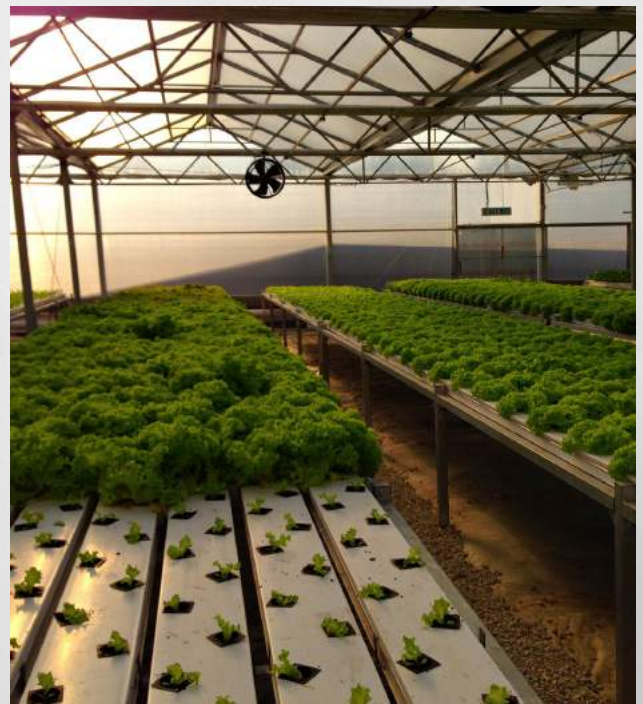
WE ARE SPIRE



Addressing the plight of global inequalities, protecting natural systems, constructing & growing economies whilst reducing poverty.

AQUA-AGRI RELATED EMPLOYMENT

The City Project's provide the farming families **full-time employment** for 2 people within a family or household. In addition to **job security, water, electricity,** healthy nutritious **organic vegetables & fish** for daily personal consumption, and consistent **capacity building, training, education** and **knowledge** for the use of basic technology.



THE CITY PROJECTS ANCILLARY INDUSTRY EMPLOYMENTS



The ABCDE City Projects ancillary industries (refer Pg. 2) offer extensive **opportunities & employment** (**5000 direct & 1000 indirect employments**) across multiple fields & scopes for individuals not participating as farmers.

Education and stable employment are lynchpins of any national strategy to **minimize poverty** - one must further recognize and address that we do not only need to create new jobs, but we must also train workers to fill them.

“

**SPIRE'S ABCDE
CITY PROJECT'S
ARE
TRANSNATIONAL
IN NATURE AND
TRANS-
INSTITUTIONAL
IN SOLUTION.**

”

A Microcosmic Economy

*The Rural Economic Development
(RED)
Program*

100%

SELF SUFFICIENCY

A systemic approach to economic development designed to benefit businesses, society, and the environment.

96, 517 MT/GhG

CARBON NEUTRALITY

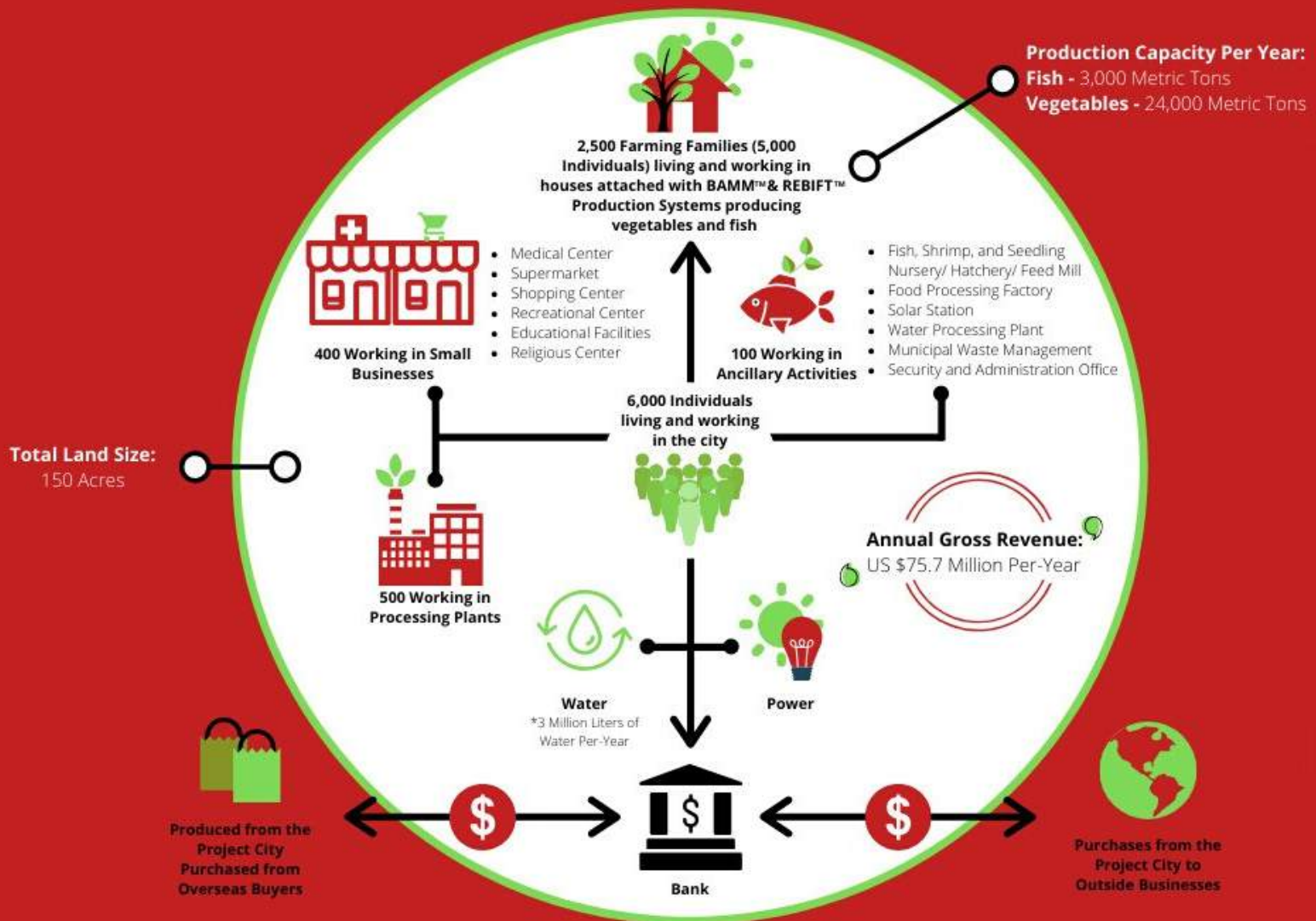
Decoupling economic activity from the reliance of external finite resources.



The Rural Economic Development (RED) Program

A Microcosmic Economy

2020



Microcosmic Economy: economic activities in full-scope covering most aspects contained within a comparatively restricted area of a satellite city.



Microcosmic Economy

The Rural Economic Development (RED) Program

Spire's **Program RED** initiated through the concept of "A Microcosmic Economy", invented for and implemented in the ABCDE City Projects, entails redefining growth & self-reliance, focusing on positive, nation-wide benefits.

The Microcosmic Economy addresses a global phenomenon across the spectrum of developed and developing economies, aiming to prevent urban clustering and transforming isolated rural settlements into dominant business & industry-specific hubs.

Shifting from the flock of urban sprawl, internal rural-urban migration patterns and mega city congregation, the program encourages rural agglomeration leading to increased productivity & sustained economic growth.

Underpinned by a transition to renewable energy sources, the production, manufacturing and export of organic produce and consistent revenue generation, the microcosmic model builds economic, natural, and social capital - *out of stagnant resources* (people & land).

Our interdependent, holistic approach combines a variety of innovative technologies, including energy-positive homes, energy storage, backyard high-yield organic food production, proprietary carbon neutral technologies, water management, and waste-to-resource systems, amongst several others.

Reducing the environmental impacts of production and consumption to it's bare minimum, we build self-sustaining, thriving communities through the RED Program, while it trickles down in impacting and contributing to the nations economy as a whole.

The background of the page features a collage of financial and statistical graphics. At the top, there's a red banner with the title. Below it, a dark area contains a bar chart, a line graph, a pie chart, and a network diagram. A large, stylized 'STATISTICS' text is visible in the upper middle. At the bottom, there's a laptop screen showing a bar chart. The overall theme is data-driven and economic.

THE MICROCOSMIC ECONOMY

A report of a comprehensive breakdown on the Microcosmic Economy's **key figures and financials**.

150 ACRES LAND AREA

Total area of a singular ABCDE Satellite City comprising of 2500 families, embodying the Microcosmic Economy.

6000 EMPLOYMENTS

Direct & indirect employments based on farming families & a range of ancillary industries operating within the Project.

85.5 M ANNUAL REVENUE

An ABCDE City Project's annual revenue based on intensive fish farming & ancillary activities.

Mobile Management System

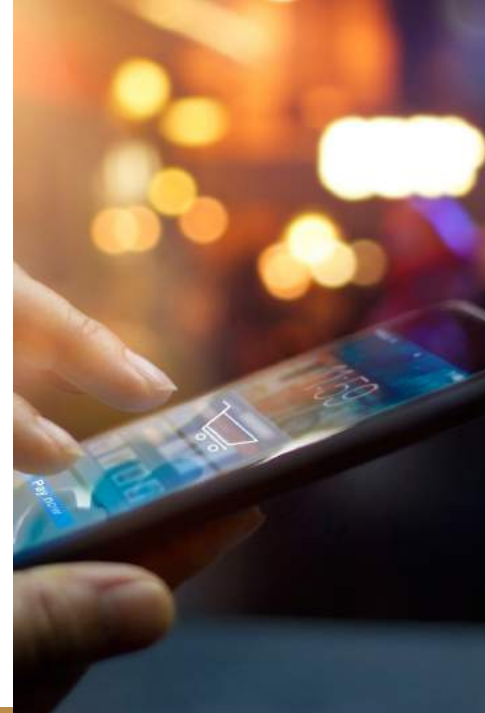
Spire shares its core capabilities within the scope of its **Mobile Management Application (MMA)** among the people & projects implemented. Working with components & materials optimized for use in the field & controlled with custom software for integrated design, manufacturing, project & day-to-day activity management, this technology is continuously evolving to meet the wants & needs of its users.

"The origins of many of the changes sweeping global economies can be traced to two sources: trade and technology."

Trade & Technology

Trade is a driver of prosperity.

Within the Microcosmic model, **prosperity** flourishes & people have **purposeful, meaningful work** that they enjoy, enabling them to use their **passion & talent**. By connecting citizens with the advanced technologies that are transforming everyday lives, we instill **knowledge & capacity**.



A MICROCOSMIC ECONOMY

RED PROGRAM

**RESILIENT, INNOVATIVE
LOCALITIES.**

**VIBRANT CLUSTERS OF
MICRO-SATELLITE TOWNS.**

SELF-SUFFICIENCY

Stimulating wealth & asset creation, whilst developing locally productive & globally connected self-sufficient cities.

RURAL ECONOMIC AGGREGATION

The diffusion & re-localization of economic activities in the peripheries of large cities.

EMPOWERING CITIZENS

Facilitating entrepreneurship & revenue generation, promoting the empowerment of cities & their citizens.

LOCAL ECONOMIC STIMULUS

Shifting nonproductive individuals to high revenue generating citizens.
Local Multiplier Effect (direct, indirect & induced) surge.





The Effects

OF THE MICROCOSMIC ECONOMY

The Microcosmic Economy is a model which enables individuals & communities that may otherwise be at the margins of society to help themselves up the ladder of economic & social opportunity to greater levels of self sufficiency, whilst constructing, impacting & contributing to a significant surge of the **Local Multiplier Effect (LM3)** in all **three occurrences - direct, indirect, & induced**.

Refer to Key Studies in Appendix

Our approach to economic sustainability provides widespread access to modern means for invention & production;

stimulating development, growth, wealth & asset creation in the most economically distressed communities.

"Encouraging ethical market economies, helping reduce wealth inequality, bringing population growth & resources into balance."

Spire's strategy is unique in that it addresses a range of environmental, social & economic objectives in a systematic approach to harness new technology & production approaches. Providing critical access to capital & resources, we offer the vision, thought leadership, and technical assistance needed to enable citizens.



2020

SPIRE REPORT

We recognize the need to reinvent cities & their relationship to people & nature by re-localizing production, so cities are **generative** rather than **extractive**, **restorative** rather than **destructive**, & **empowering** & **contributing** rather than **depending**.

Program RED's implementation of a Microcosmic Economy's theories are connected to Spire's global network, comprising of an international think tank of **civic leaders**, **policy makers**, **urbanists** & **innovators** working on changing the paradigm of current industrial economies & inequalities across all aspects. Promoting public policies that will create a context in which **inclusive** & **sustainable local economies** are established.

A heterogeneous amalgam of investments in infrastructure, housing, commercial ventures, industrial parks, health & educational institutions within small, initially uninhabited towns, which, in turn, become central places, i.e., nodes & sites of agglomeration.

At the core of Spire's strategy is the development of a global network of satellite cities, originating the generation of opportunities within every sector of a society & economy, and part of a **sustainable, agro-economic ecosystem** of **production, technology, innovation & knowledge**.

THE ECONOMIC STRATEGY

Program RED

THE MICROCOSMIC ECONOMY

A Hypothetical Comparison

2020 CASE STUDY

Tuvalu

Vs.

ABCDE City Project



**SPIRE
USA
INC.**

HYPOTHETICAL CASE STUDY OF A MICROCOSMIC ECONOMY

TUVALU VS. ABCDE CITY*

*Aqua-Agri Based Community Development Export City Project (ABCDE)



TUVALU

Population: 11,342

Area total: 26 sq km

Land use:

- **Agricultural land:** 60%

GDP: US\$42 Million

Total Unemployment: 20.6%

GDP Contribution sectors:

- **Agriculture:** 24.5% (copra, taro, banana, sugarcane)
- **Industry:** 5.6% (fishing, tourism, copra)
- **Services:** 70% (internet domain, regional air services)

Occupation: exploitation of the sea, reefs, atolls (only 8 out of 9 atolls are inhabitable due to poor soil conditions), and through overseas remittances (mostly from Tuvaluan sailors in New Zealand, and workers in the phosphate industry of the Nauru Island Nations).

The bulk of the nation's economy is based on subsistence farming, fishing/ fishing licenses, and the export of copra.

Land Issues: limited arable land and no natural sources of fresh water.

Source: CIA. (2019). Tuvalu. World Fact Book. CIA. Retrieved from: <https://www.cia.gov/library/publications/the-world-factbook/geos/tv.html>



LABOR FORCE: 3,615

AVERAGE ANNUAL INCOME

PER CAPITA: US\$1,000



ABCDE PROJECT CITY

Population: 10,000

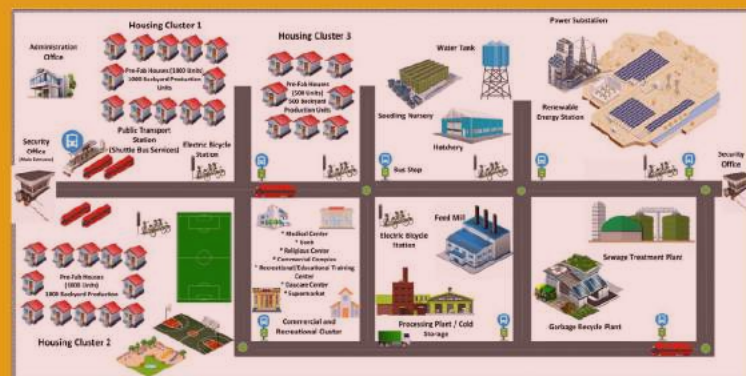
Area total: 0.6 sq km

Land use: Backyard Farming Units attached to 2,500 houses to produce (per annum):

- +/- 3,000 metric tonnes of organic freshwater fish
- +/- 24,000 metric tonnes of organic vegetables

GDP Contribution sectors:

- **Aqua-agriculture:** Organic fish, shrimp, and vegetables at the farming families backyard
- **Industry:** Fish, Shrimp, and Seedling Nursery/ Hatchery/ Feed Mill, Food Processing Factory, Renewable Energy Station, Sewage Treatment Plant, Municipal Waste Management
- **Services:** Bank/ Financial, Security and Management Offices, Medical / Health Facilities, Commercial Center, Educational Facility, Public Transportation, Access to a Committed Export Market



LABOR FORCE: 6,000
AVERAGE ANNUAL INCOME
PER CAPITA: US\$8,500

Total Unemployment:
0%

Nominal GDP: US\$85.5 Million

FOOD PRODUCTION



NOT DEPENDENT ON WEATHER
NOT DEPENDENT ON SOIL & SPACE



TO GROW ECONOMIES & HUMANITY