

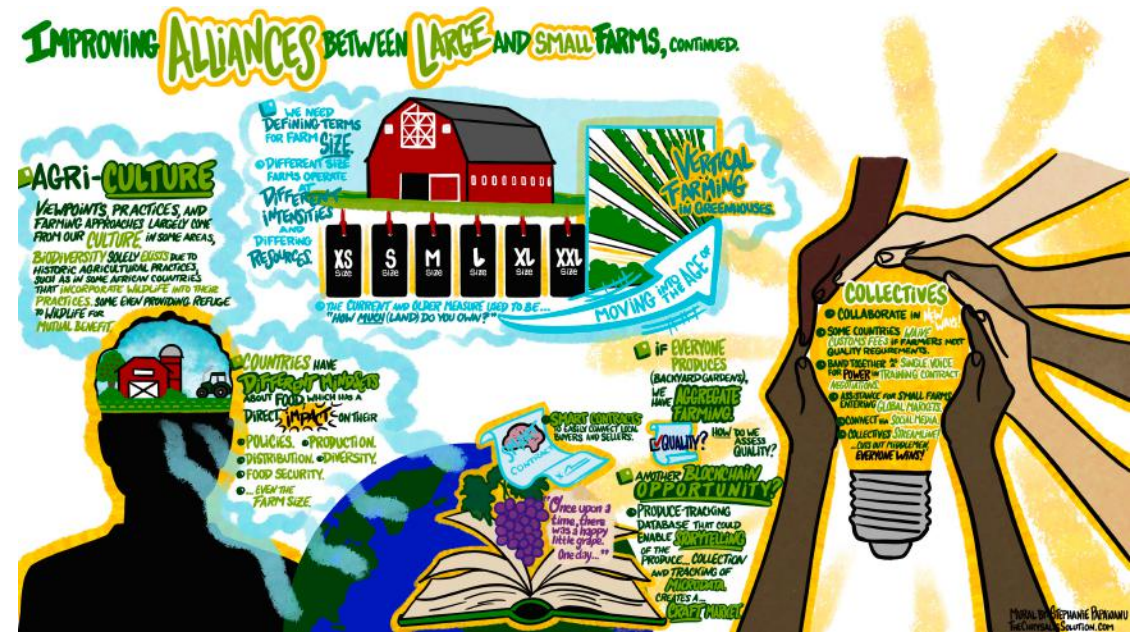
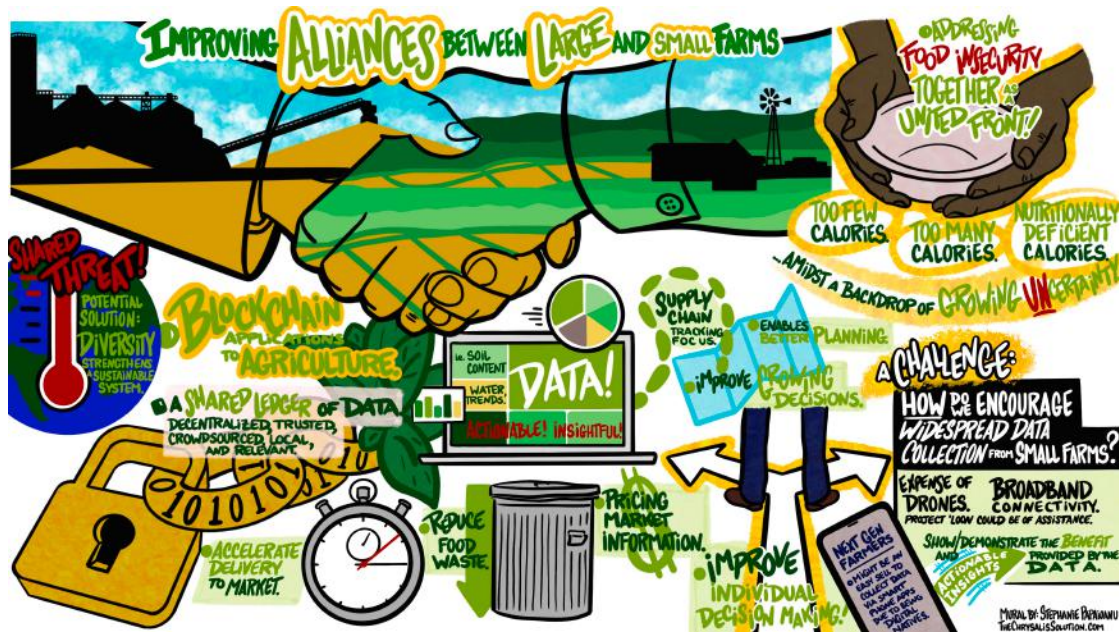


Atlantic Council

GEOTECH CENTER

AgriTechAction 2020

Roundtable Murals



Roundtable 1.1: Improving Alliances Between Large and Small Farms

AgriTechAction 2020



ACHIEVING ZERO GLOBAL FOOD WASTE

NOVEMBER 17, 2020

STEM THE LOSS OF FOODS...

\$1 TRILLION LOST EVERY YEAR!

821 MILLION PEOPLE ARE HUNGRY



FOOD LOST TO INSECTS AND FUNGI

CHALLENGES IN FOOD SYSTEMS

OVER 80% OF FOOD LOSS HAPPENS IN EARLY PHASE

WE HOLD AN ANNUAL MEETING TO STRATEGIZE

FOCUS ON VALUE CHAIN GRAIN AND STABLE CROPS

THE CHALLENGE IS THE LOW INCOME COUNTRIES

NEED TO HIGHLIGHT INNOVATIONS

TECHNOLOGY ALONE IS NOT ENOUGH

UNDER REPRESENTED PARTNERSHIPS

TECHNOLOGY IS THE BASE... NEED TO MOBILIZE STAKE HOLDERS

PATHWAYS TO ENTREPRENEURS

TOO MUCH UNORGANIZED AND UNREGULATED PROCESSES AND PLAYERS

LOSS OF CONTROL ON GRAIN FED

LACK OF INTEREST IN FOOD WASTE

POST HARVEST CHALLENGE

GET TECHNOLOGY INTO RIGHT HANDS

NEEDS TO INCLUDE GOV'T AND ACADEMIA

MISSING COLLABORATIONS

FUNDING AND TECHNOLOGY TO GET THINGS TO MKT

COLLABORATIVE DECISION MAKING



BRING IN HIGHEST LEADERS AND DONORS

MENTORING

PRIVATE SECTOR PARTNERS

GET RID OF FIGHTING AND MISTRUST!



GET RID OF FIGHTING AND MISTRUST!

COLD CHAIN STORAGE CHALLENGE

NOT ONLY COLD STORAGE BUT FIRST STEPS FROM FIELD CRUCIAL!

NOT EVERYONE SHARES INFO

MOVE IDEAS

TRAINING

TESTING FOR AFLOTOMAS

HOW TO MITIGATE LOSSES

DEFEAT TOXINS AND WASTE

WE WANT TO REDUCE FOOD WASTE IN MARKET

HARD WORK OF PRIVATE SECTOR

ENGAGE WITH SMALLER FARMERS WITH TECHNOLOGY

INCREASED SALES

PROJECTS SUCH AS STORAGE BAGS

BUILD AWARENESS!

RESEARCH AND SCALED UP RESOURCES

PARTNERSHIPS AND ADVOCACY

SO MANY GREAT MINDS GIVING ATTENTION

ZERO WASTE

USE OF DATA TO AUDIT AND TRACK PROBLEMS

TEMPERATURE IS IMPORTANT

AI AND SENSORS

SHARING INFORMATION

RESISTANCE TO CHANGE

ADoption

NEED STRONG LOCAL PARTNERS

ADoption CRITERIA

LOW COST FEASIBLE MODELS TO FARMERS

GOVERNMENT INTERVENTION

SUCCESS

TECHNOLOGIES AND DISCOVERY

NO USE FOR SOLUTION THAT CAN'T BE PAID FOR

SOLUTIONS SUCCESSFULLY DEVELOPED WHEN TALKING DIRECTLY TO THE USERS

USER CENTRIC

ALSO CONSIDER GENDER...

ACCESS TO CREDIT

WOMEN'S POWER

GETTING THE MESSAGE OUT THERE AND THE LAG TIME CHALLENGE?

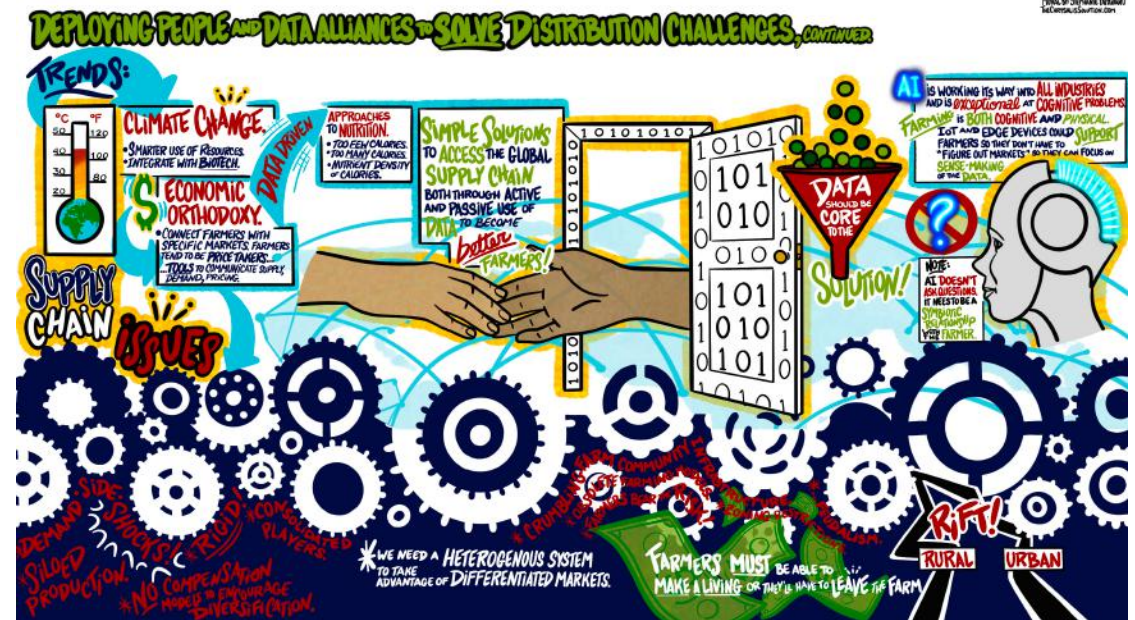
STAY IN PUBLIC MIND

SYNTHESIZE THE MESSAGING

GLOBAL INNOVATION EXCHANGE

APPROACH INITIATIVES TO COORDINATE MESSAGE

Roundtable 1.2: Achieving Zero Global Food Waste



Roundtable 2.1: Deploying People and Data Alliances to Solve Distribution Challenges

AGRITECH ACTION 2020

Delivering FOOD to the MOST VULNERABLE Populations

NOVEMBER 17, 2020

PROVIDE GOOD FOOD AT ACCESSIBLE COST



FOOD DESERTS, FOOD SWAMPS, SEDUCTIVE ADVERTISING... WHAT ELSE CONTRIBUTES TO FOOD INSECURITY?

FOOD WASTE GOING TO LANDFILLS... CONNECT PEOPLE TO FOOD!

1. PUBLIC/PRIVATE PARTNERSHIPS LIKE NGO "GAIN"
INITIATIVES TO LEVERAGE PRIVATE RESOURCES AND RESEARCH

- FOOD FORTIFICATION
- WORKFORCE NUTRITION ALLIANCE

WHAT'S THE PLAN? RURAL and URBAN
THE PANDEMIC AFFECTED US TO LOOK FOR NEW WAYS and NEW PARTNERS

FOOD BANK SOLVE COST and ACCESS PURPOSEFUL ABOUT ROLE TO FEED and BRING FAMILIES TOGETHER

WORK DAY HEALTHY FOOD LEADS TO BETTER PRODUCTIVITY
HEALTH CHECKS HELP MOTHERS w/ BREASTFEEDING

EMERGENCY FOOD HELP
HOW TO HELP FASTER!
MOBILE APP
"FARMACY" MOVE FRESH, HEALTHY FOOD

ADDRESS MENTAL HEALTH
SIMPLE CHOICE and ACCESSIBILITY TO HEALTHY SHELF FOOD

2. FARM INITIATIVE TEACH NEW GROWING METHODS LEVERAGING TECH
DRONES AI APPS SEE FOOD GROWN ON SITE AND BRING IT HOME
HYDROPONIC GROWN FOOD

3. DAIRY PARTNERSHIPS
PEOPLE NEED THEIR COMMUNITY
HELP US UNDERSTAND CORE ISSUES AND MOVE TO FASTER DELIVERY

4. TECHNOLOGY and MOBILE APPS HELP FOODBANKS RUN
B TO B TO C WASN'T GIVING US INSIGHTS... WE HAD TO FIGURE OUT NEW WAYS TO DEAL
CURBSIDE DELIVERY
FRESHTRAK.COM MATCHES TO FOOD RESERVATION TO AVOID THE LONG LINES TO FOOD BANKS
APP TO HELP PEOPLE GET OUT OF POVERTY SITUATION

EATING FRESH and HEALTHY CAN BE ENABLED THROUGH TECHNOLOGY
SPEED and BREADTH HAS BEEN HASTENED BY COVID
SHOPPERS HAVE HAD TO ADJUST HABITS
LESS TRIPS TO STORE MORE BULK BUYING

PRIVATE/BUSINESS INTERESTS DON'T HAVE TO BE IN CONFLICT
FIND THE SHARED LINES
TALK!
WHY DO YOU WANT TO DO THIS?
WHEN VALUES AREN'T ALIGNED CAN CALL IT OUT
SEE WHO OTHER PARTNERS ARE
SIMILAR GOALS and OBJECTIVES?

REFINE LAWS
POLICY ISSUES TO BE RESOLVED and IMPROVED
EXPIRED
THERE IS A MORAL IMPERATIVE TO FOOD HEALTH
STRATEGY IS SPEED
LEAN INTO THE FUTURE
GO FAST TO LEVERAGE TOOLS AND MEET THE NEEDS EXPONENTIALLY

THE GREAT DIVIDE... TECH GAP
NO INTERNET HERE!
DATA FEED IN ADOPTION...
DATA SCIENCE
MODELS ARE CHANGING... THERE IS NO GOING BACK
THINGS ARE CHANGING RAPIDLY
FARMERS ARE MORE SOPHISTICATED and RELY ON EDUCATION

LOOK AT THE DATA HOLISTICALLY...
TRY NEW THINGS
DON'T LOOK AT SINGLE DATA POINTS

UPCYCLING TO AVOID LANDFILLS
PUMPKINS FOR COMBS
APPLE AND POTATO PEELINGS
CUCUMBERS ARE DELICIOUS
HOLISTIC APPROACHES
PARTNERSHIPS
GROCERY STORE IMPACT
NEW WAYS OF THINKING
GET INVOLVED

Roundtable 2.2: Delivering Food to the Most Vulnerable Populations

RESPONDING TO FOOD EMERGENCIES EFFECTIVELY.



- CAUSES:**
- CLIMATE CHANGE DROUGHT
 - FORCED MIGRATION
 - PANDEMICS BROKEN SUPPLY CHAINS
 - UNSTABLE GEOPOLITICS SEVERE WEATHER EVENTS

- [1] PREVENTION:**
- ✓ STEADY INCOME STREAM.
 - ✓ AVOIDING GEOPOLITICAL CONFLICT.

- [2] ACTION:** ...FORCED DISPLACEMENT
- ✓ NEEDS ASSESSMENT.
 - ✓ RESPONSE ANALYSIS.
 - ✓ RESOURCE MOBILIZATION.
 - ✓ DELIVER ASSISTANCE.

"1 GRAM = 1 KILO PREVENTION OF CURE"
"KNOWLEDGE OF NEEDS = IMPACT!"
"WE NEED READY-TO-GO SAFETY NETS. WE CAN'T FLY THE FLAME AS WE TRY TO BUILD IT."

MORE CAUSAL ISSUES:

TIME LAG BETWEEN...
PLEGGED...
...TO RECEIVED ...TO RENDERING AID.

- POPULATION ACCESS TO FINANCE/BANKING PLATFORMS.
- STOCKPILING RESOURCES AS OPPOSED TO RAPID DEPLOYMENT.
- LACK OF TIMELY RELEVANT INFORMATION.
- LACK OF EMPOWERING WOMEN...
...WOMEN GREATLY IMPACT THEIR



VENTURES

POLICY FOCUS:

CASH INFLEXES INTO SMALL FARM HOLDERS OPENED THE DOOR TO ENTER LARGER MARKETS. FOR MOST BENEFIT, ACT EARLY.

UNDERSTAND THE SPECIFIC NEEDS ON THE GROUND TO...



GREASE THE SYSTEM GEARS OF THE EXISTING SYSTEM.



HYBRID PARTNERSHIPS:

PUBLIC

SHARE THE VISION AND IMPACT STORY

PRIVATE

NOT PAYING ATTENTION TO... LEADING INDICATORS.



SENTIMENT.

THERE IS SUCH A THING AS TOO MANY TOMATOES!
...OLD THINKING OF...

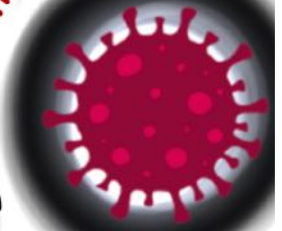
EROPCH TRANSITION TO GIVE AID...

OLD GOVT TO GOVT (LONG SUPPLY CHAIN)

NEW! CASH TRANSFERS TO NEEDS (LOCAL DISTRIBUTION SYSTEMS)



IMPEDIMENT TO MOVING PHYSICAL GOODS/CALORIES

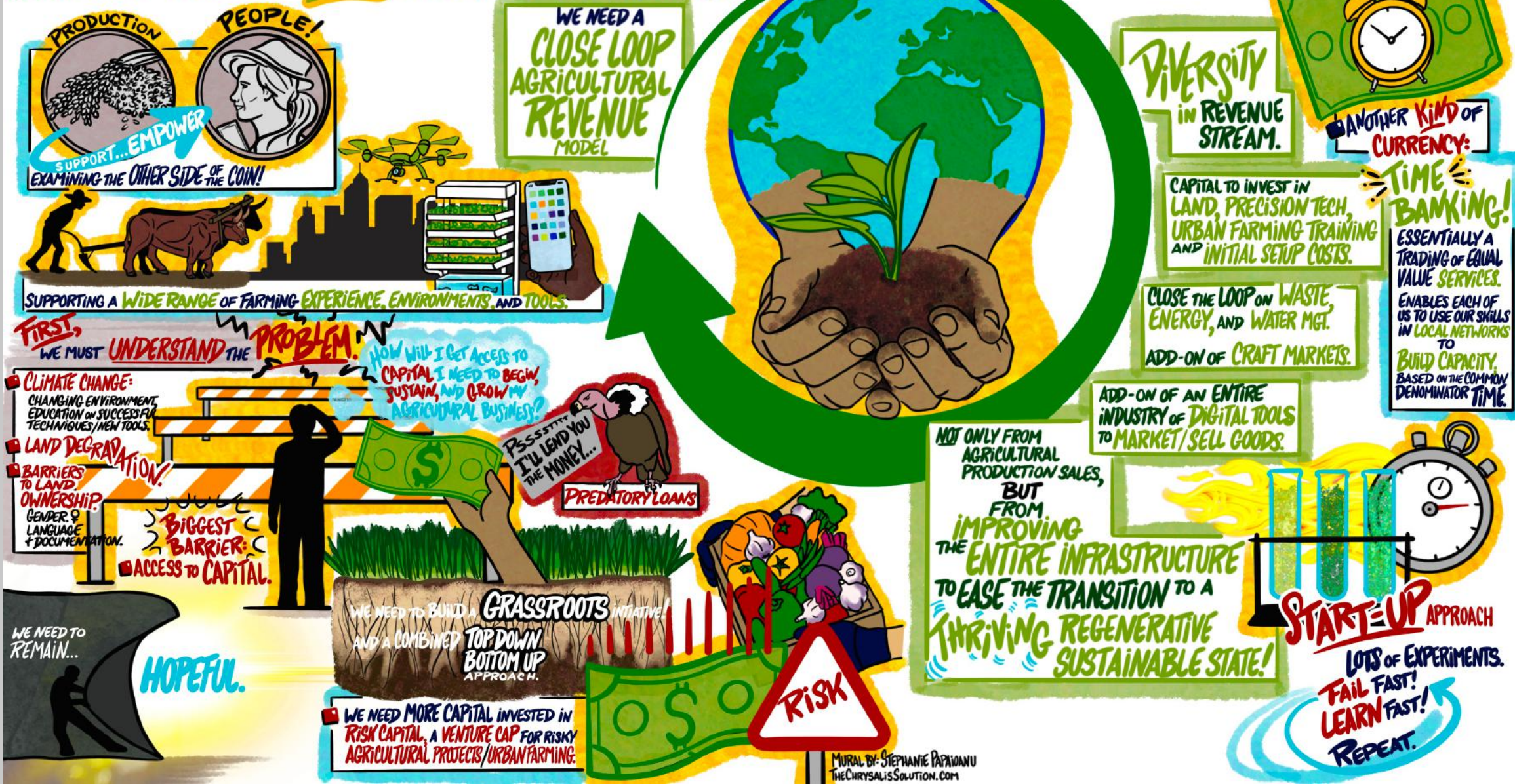


DISTRIBUTION SYSTEMS. INABILITY TO FIND STRANDED PRODUCT (FOOD SERVICE) AND SHIFT TO FOOD ASSISTANCE. COMPLIANCE MANAGEMENT WAS RETOOLLED FOR FOOD ASSISTANCE. MAXIMIZED THE COMMERCIAL FOOD INDUSTRY'S ABILITY TO PURVEY FOOD TO THEN PARTNER WITH FOOD ASSISTANCE ORGANIZATIONS.

MICRO TO MID SCALE FOOD SYSTEMS: A SOURCE OF RESILIENCY TO LARGER FOOD SYSTEMS...

CAN WE PROVIDE TRANSPARENCY OF THESE MICROSISTEMS TO BUILD

SECURING AND TRAINING THE NEXT GENERATION OF FARMERS



Roundtable 2.1: Securing and Training the Next Generation of Farmers



Roundtable 2.2: Increasing Connectivity and Access to Tech for All Farmers

INCENTIVIZING A REGENERATIVE AGRICULTURE SYSTEM

REGENERATION
RESTORE WHAT WE'VE TAKEN AWAY.

ATTEMPTING TO ACHIEVE STANDARDS OF MEASUREMENT OF **SOIL HEALTH**, THE CAPABILITY OF THE SOIL TO FUNCTION.
BUT, 'SOILS DEFY US!' ...DIFFICULT TO MEASURE.

SUSTAINABILITY
ENVIRONMENT + ECONOMIC STABILITY FOR THE FARM, COMMUNITY, AND ONWARDS.

ECONOMIC INCENTIVE
HOW DO WE VERIFY? AND COST EFFECTIVE PRACTICES?

DATA
TECH INNOVATION ALLOWS FOR IMPROVED PRACTICES.
• DRONE USE WILL LIKELY FIRST BE APPLIED TO SPECIALTY CROPS.
• THEN MORE WIDESPREAD AS A LABOR SHORTAGE DEVELOPS.

PRIVACY RIGHTS? INTELLECTUAL CAPITAL?

ARE WE INCENTIVIZING THE RIGHT SUSTAINABLE REGENERATIVE PRACTICES?
HOW DO WE PAY SOMEONE TO TAKE CARE OF RESOURCES?
ASK, "WHO'S BENEFITING?" ...DEVELOP AN **ECOSYSTEM MARKET.**

SHOW AND DEMONSTRATE THE BUSINESS CASE.

FARMERS ARE OVERBURDENED WITH RISK

AND, HAVE THE LEAST AMOUNT OF CONTROL.

WE'RE STARTING TO CHANGE MORE QUICKLY. FARMING USED TO CHANGE 1 FUNERAL AT A TIME. BUT, WE'RE ADDING MORE COMPLEXITY TO A SYSTEM THAT HISTORICALLY HAS BEEN FOCUSED ON SIMPLIFICATION.
LOTS OF DATA GATHERING. WE NEED DATA SENSE-MAKING.

PRECISION!

APPLY FERTILIZER BY THE THIMBLEFUL!

CAN WE SCALE DRONE USE IN A COST EFFECTIVE MANNER?
SPECTROSCOPY WILL BE DOING FIELDWORK NEXT YEAR, BUT COST IS UNKNOWN.

COUNTRIES CURRENTLY WITH LIMITED TECH TOOLS COULD LEAPFROG OTHER COUNTRIES AS THEY ADOPT NEWER PRECISION TECHNOLOGY!

REMEMBER: IF YOU THROW MOTHER NATURE OUT THE WINDOW, SHE TENDS TO COME BACK WITH A PITCHFORK!

FARM DATA \$\$\$?

HOW CAN WE HELP FARMERS MONETIZE THEIR DATA?
VALUE BACK TO THE FARMER.

FARMERS NEED/WANT ACTIONABLE INSIGHTS FROM DATA COLLECTION.

MURAL BY: STEPHANIE PAPAIOANU
THECHRYSLISOLUTION.COM

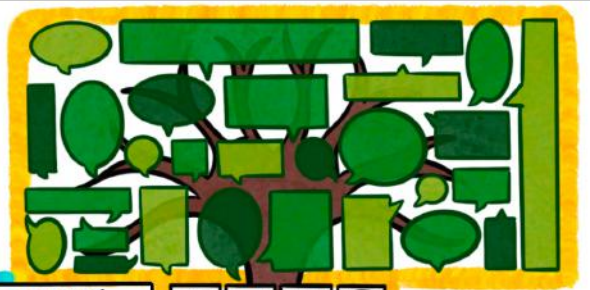
Roundtable 1: Incentivizing a Regenerative Agriculture System

OVERCOMING FOOD MISINFORMATION AND DISINFORMATION

THE **Best** TECHNOLOGY CAN'T OVERCOME **YEAR** MISINFORMATION DISINFORMATION.

ANTICIPATE PERCEPTIONS TO TRY TO GET OUT IN FRONT OF IT.

IT'S A **RACE TO THE TRUTH!**
 ✓ BE QUICK!
 ✓ CREATE DIGESTIBLE INFORMATION.
 ✓ HAVE CREDENTIALLED 3RD PARTIES SHARE YOUR MESSAGE. USE MANY PLATFORMS.
 ✓ IMPORTANT: BE HONEST.



NEWS

WE USED TO HAVE A COMMON NEWS SOURCE AS POPULATION AS A BASIS FOR PUBLIC DISCUSSION ABOUT ISSUES, ROOTED IN AGREED UPON FACTS AND EVIDENCE.

FACT CHECK TRUE



"I DON'T KNOW WHAT G.M.O. STANDS FOR, BUT I'M AGAINST IT!"

CONSUMERS BELIEVE...
 "MARKETERS TELL THEM ABOUT FOOD...
 "SO WHAT'S HEALTHY FOR YOU IS...
 "AND IT'LL MAKE YOU LOOK BEAUTIFUL, YOUNGER, ETC."

CONFIRMATION BIAS
 WE MISINFORM OURSELVES.

FACT
FAKE

INTUITIVE SIDE
 NO WORRIES! I GOT THIS! BOTH OF OUR THOUGHT PROCESSES HAVE EQUAL WEIGHT, EVEN THOUGH MINE IS HIGHLY SUBJECTIVE!

LOGICAL SIDE
 UGH! I'M OVERWHELMED. I "CAN'T DO THE MATH. ...TAKING A BREAK."

WHO ARE PEOPLE LISTENING TO REGARDING NUTRITION?
 HISTORICALLY, PEOPLE WITH CREDENTIALS...
 NOT AS MUCH LATELY.

NOW, WE HAVE NO COMMON SOURCE OF NEWS. AS A POPULATION, WE HEAR DIFFERENT "NEWS" STORIES FROM ONE ANOTHER, OFTEN HIGHLY EDITORIALIZED AND SELECTED FOR US BY AN ALGORITHM TRAINED TO INCREASE OUR ECHO CHAMBER.



MESSAGE INUNDATION!

SUGAR FREE
 FAT FREE
 ALL NATURAL
 ORGANIC
 FAT FREE
 GLUTEN FREE
 NON-GMO
 ENRICHED
 FREE RANGE
 HORMONE FREE
 PESTICIDE FREE
 LOW SODIUM



PERVASIVE MARKETING!
 "FREE" ABSENCE MARKETING.
 FORCES EVERYONE TO USE THESE LABELS, EVEN IF NOT APPLICABLE.



TRUST HAS GREATLY **ERODED**.

IN PARTICULAR, OUR CONFIDENCE IN THE FDA AS REGULATORY BODY IS GREATLY UNDERMINED AS WELL AS CONFIDENCE IN FOOD PRODUCTS.
 DO WE HAVE THE RIGHT PERSON AT THE USDA AS THIS AGENCY TAKES ON GREATER IMPORTANCE? ARE THEY ON THE SIDE OF SCIENCE?



HAZARD X MEDIA EXPOSURE = PERCEIVED RISK.

UNDERMINED CONFIDENCE.
 NEEDS SCIENCE BASED POLICIES!
FOOD EPICENTER
 ECONOMIC HEALTH. ENVIRONMENTAL HEALTH. PUBLIC HEALTH.
 NEEDS A CENTRAL FOOD AUTHORITY!

MURAL BY: STEPHANIE PAPAIONANU
 THECHRYSALISOLUTION.COM

Roundtable 2.1: Overcoming Food Misinformation and Disinformation

INCREASING FOOD RESILIENCE IN THE FACE OF CLIMATE CHANGE

NOVEMBER 19, 2020

1. DECARBONIZATION
2. INCREASE SUPPLY/DECREASE
3. WEATHER EVENTS OVER NEXT 10 YEARS

DECARBONIZATION and TECHNOLOGY

DEVELOP TOOLS
BUSINESSES NEED TO TAKE ACTION!

COMMIT TO CARBON NEUTRAL

CRADLE TO SHELF NET ZERO BY 2039

FOCUS and INNOVATION and TRANSPARENCY

NEED TO DEAL WITH THIS NOW!

MICRO BIOMES

MOVE THE NEEDLE THROUGH TECHNOLOGY

MEASUREMENT ISSUES
NEED TO LOOK AT FARMER PRACTICES
MEASURE THE IMPACTS OF MAKING IMPROVEMENTS OF SOIL QUALITY

CARBON CREDIT IN SEQUESTERING CARBON and PAYING FARMERS

DATA DATA DATA
REDUCE COSTS OF MEASURING and VERIFYING

RESEARCH
ALIGN EDUCATE

EMPOWER FARMERS THROUGH TECH
IMPROVE EFFICIENCY

MARKET PLACE
TRANSPORT ACCESS EFFICIENCY
PAY FARMERS TO IMPROVE SOIL

IMPROVE EFFICIENCY ON AMOUNT OF PROTEIN PRODUCED BY CATTLE

BUILD TRUST WITH CONSUMER

USDA
MORE PURCHASING
PERMANENCY

CONSUMER AT THE HEART
TRANSPARENCY DRIVES TRUST!

REDUCE ANTI-BIOTICS

PARTNERSHIPS

MEASURE CARBON
WHAT ARE METRICS?
ADoption and INCENTIVES

PEET ENERGY and COMPRESSION TO MAKE NITROGEN FERTILIZER
1 TON EMITS 2 TONS OF CARBON!

USE BIOMASS AS ALTERNATIVE TO PRODUCE THE ENERGY and REDUCE THE CARBON

NOT JUST A FAD!

ENSURE LESS WASTE and CHAMPION EATING MORE PLANTS as WELL as PLANT BASED PROTEINS

MOVEMENT TO PLANT BASED FOOD

REGENERATIVE VS. ENGINEERING

NITROGEN IS MOBILE and SOLVABLE in SOIL

NITROGEN RUN OFF IN WATER and THROUGH EROSION

MEASURE WATER RUN-OFF

STRIKE BALANCE WITH NITROGEN FERTILIZER and BOOSTED NUTRIENTS

WHERE DO PEOPLE GET THEIR PROTEIN? CAN'T JUST MOVE OFF MEAT

PEOPLE WILL VOTE ON SOLUTIONS BUT YOU CAN'T JUST DESTROY FARMERS' LIVELIHOODS

FEDERAL PROGRAMS GET MONEY TO FARMERS

PAY FOR OUTCOMES TECHNOLOGY DRIVEN

RESILIENCY, ENGINEERING and NUTRITION

WE HAVE TO DEAL WITH ISSUES OF CLIMATE CHANGE and DEFORESTATION

DRIVE and IMPROVE SUPPLY CHAIN CHALLENGES

70% OF FRESH WATER IS USED BY AGRICULTURE

NEED MORE EFFICIENT USE OF IRRIGATION

USE OF WATER SENSORS TO REDUCE WASTE

COLLECT RAIN WATER

ADD SOIL NUTRIENTS

SOLUTIONS PUT IN CONTEXT THEN ANIMALS and WELFARE

LET THINGS OUT IN SCALE... MEASURE THE IMPACT!

WE WILL USE RESOURCES FOR CARBON TRADE OFF

BOTTOM LINE IS HEALTHY FOOD

RESOURCE EFFICIENCY IS IMPERATIVE!

ADDRESS SUPPLY CHAIN

EMPOWER FARMER TO MAKE RIGHT CHOICES

ADDRESS FOOD WASTE AS CONTRIBUTOR

Roundtable 2.2: Increasing Food Resilience in the Face of Climate Change