



Implementing Continuous Improvement Culture in IRRI

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PLATFORM LEADER
INTERGRATIVE RESEARCH SUPPORT



Rice Breeding



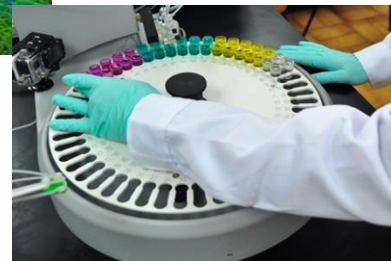
Sustainable Rice-Based AgriFood System



Integrative Research Support

Integrated Research Support Platform

- Cross – cutting operations (CCO)
- IRRI service laboratories (ISL)
- Research Infrastructure and Regulatory Compliance (RRC)
- Seed Health Unit
- Software development, database management and statistical services (SDDMSS)
- Ziegler experimental station (ZES)/research farm



**Full Cost
Recovery**



Continuous Improvement Practitioner Training



Identified 3 Initial Projects

- 15-18 people from IRRI will attend 11 half-day workshops online and will work on these projects during this training
- Each team will define their projects, team members, goals, deliverables, and metrics
- Weekly “touchbase” meetings are being held with the team leaders prior to the online training



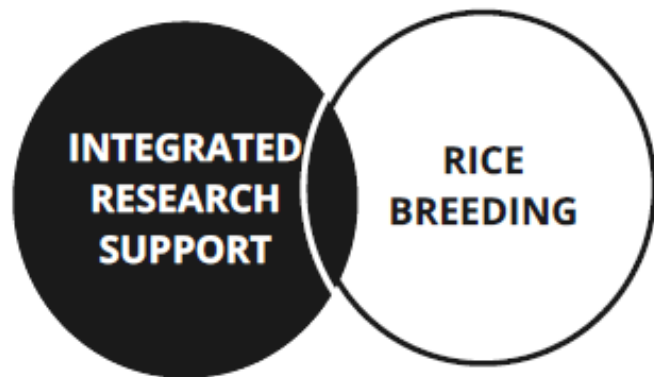
Training Guidelines

- The project is worked on during training
 - The project continues after the training
 - An action/implementation plan is created
 - The team presents their work and plans at the end of the training
- Participants must be available to attend all sessions
 - Each session builds on the next
 - Your team needs you - participants are expected to be engaged in their team project
 - When training is done virtually, each team will need one of their members to be a facilitator/leader.



Project Example

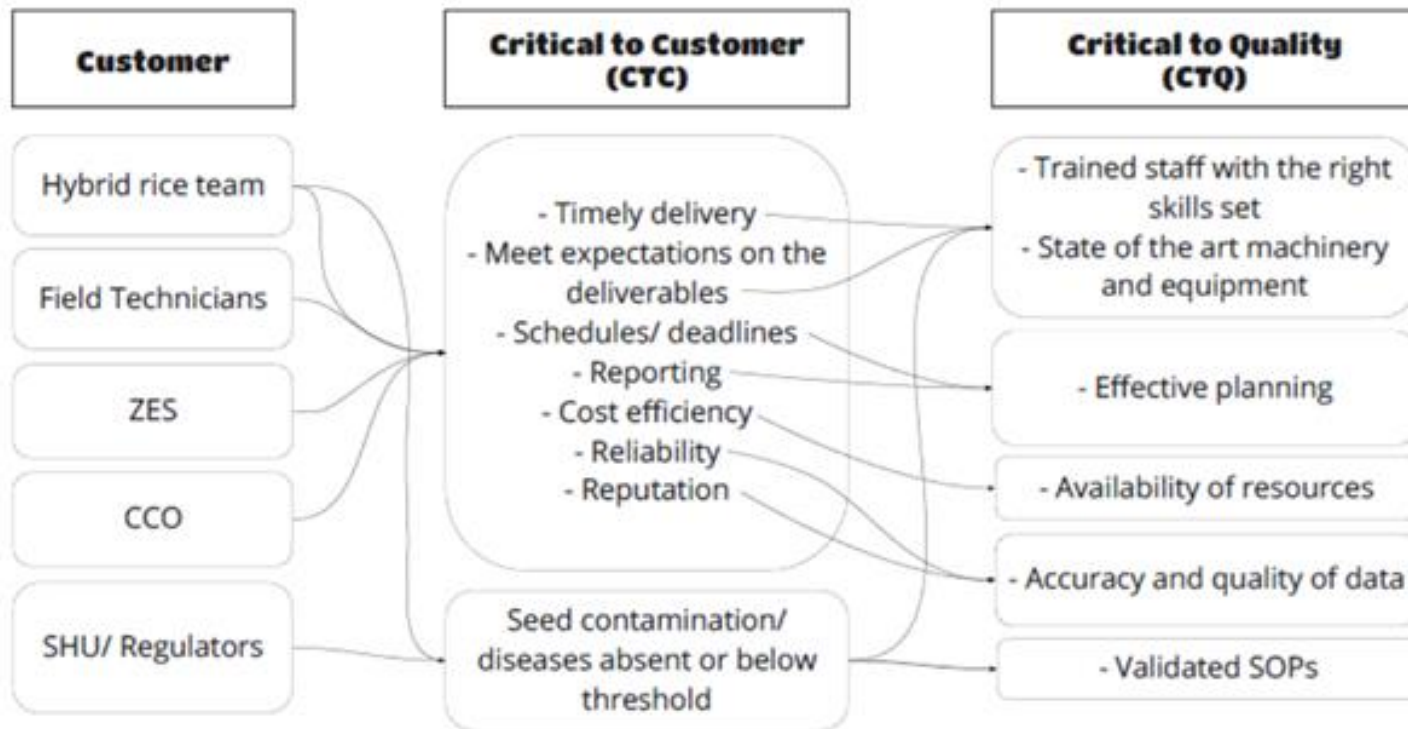
- Project: Crop Health
- Problem Statement: Increasing presence of soil borne-pathogens in seeds produced in IRRI Los Banos campus. This affects yield, seed quality and health. Also high pressure of pathogens compromise research quality. Though this concern affects all researchers using IRRI Los Banos fields and screenhouses, consequences impact mostly all researchers intending to send seed samples out of the country as seedlots do not meet minimal seed health standards. Compliance to national and international rules for seed movement is achieved only after costly testing and seed treatments. **Associated delays in shipments** and under optimal seed quality are also critical to these projects.





1. Define Value

Value is everything that your customer is willing to pay for

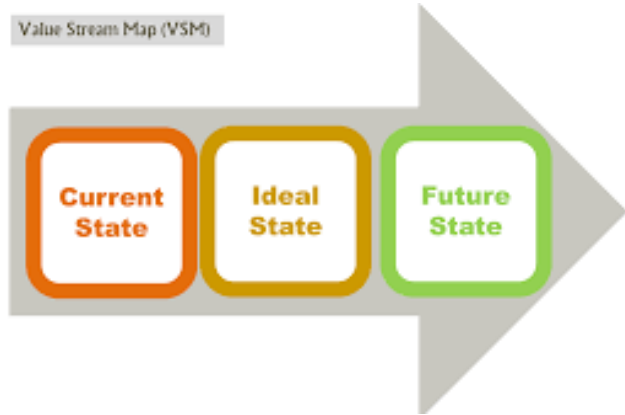


PURPOSE STATEMENT

To deliver a solution for the hybrid rice team, based on integrated field management best practices, that will effectively and efficiently reduce the level of pathogen contamination of rice seeds produced at IRRI Los Banos.



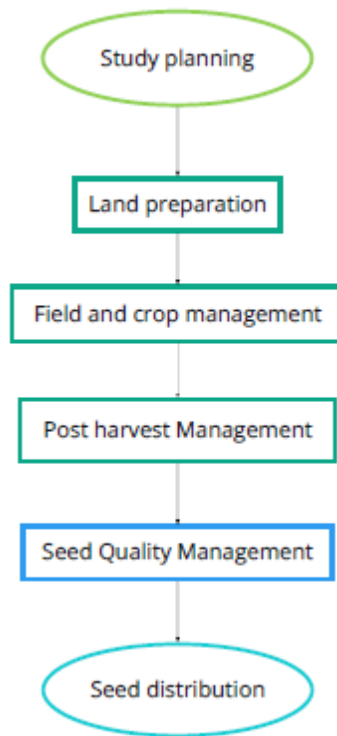
2. Value Stream Mapping



- analyze the current state of information and material flow
- to design a future state which would be more efficient and addressing the customer needs.

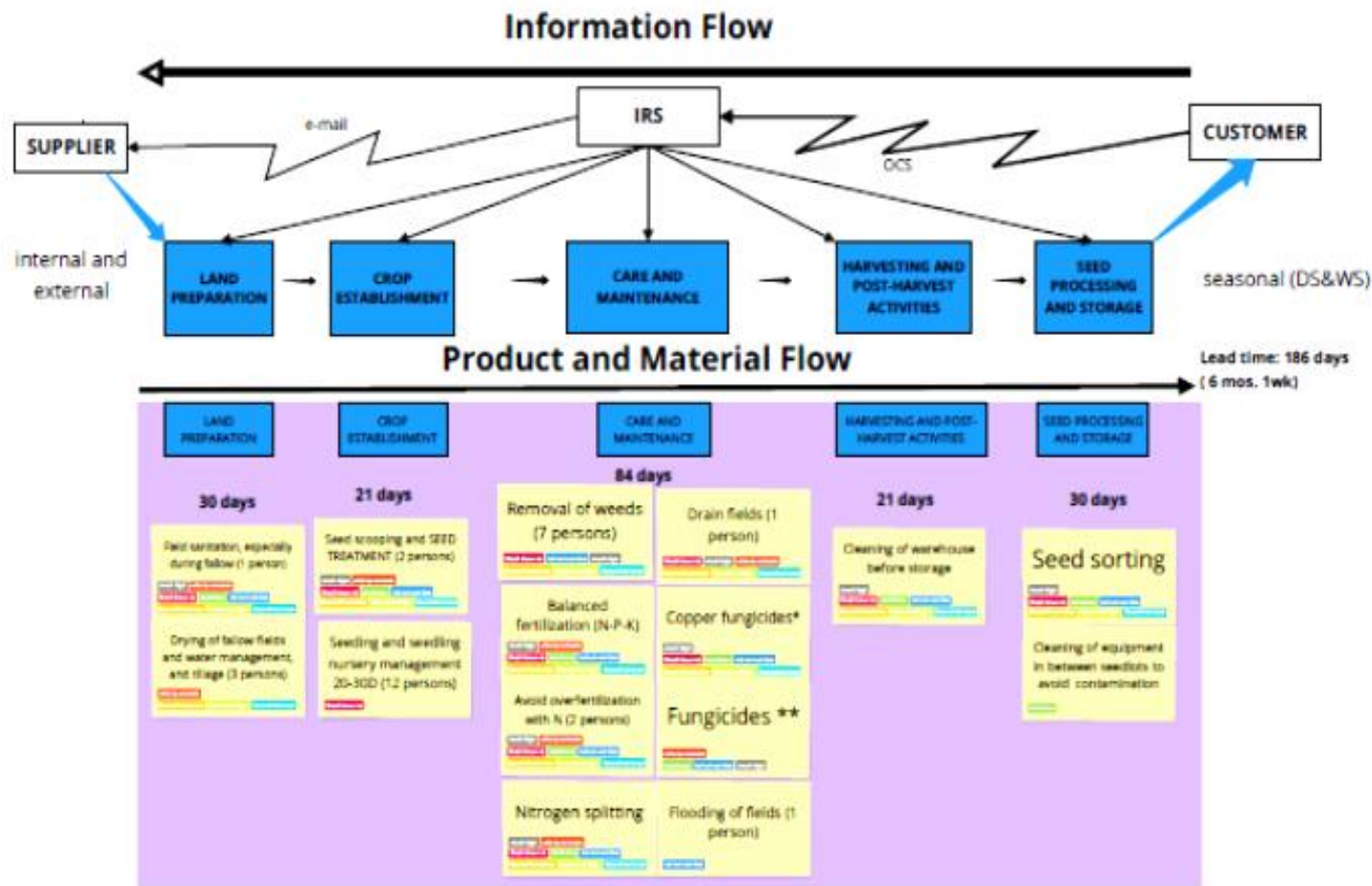


SIPOC Suppliers, Inputs, Process, Outputs, Customers



Suppliers	Inputs	CTQ Y/N	Process Steps	Outputs	Customer	Customer Type
HRDC	- Entry List - Package of Technology - Seeding and transplanting dates	Y	<i>Study planning</i>	- Study created in B4R - Well planned Schedule of activities	- HRDC - IRS-ZES, -IRS-COO -IRS- SDDM	- Internal
IRS -CCO	- Pure Seeds - Farm machineries			- Timely seed preparation	- HRB Field Technicians	- Internal
HRDC IRS-ZES	- OCS request and approval		<i>Land Preparation</i>	- Completed OCS request	- HRDC - IRS Admin - IRS ZES Field Operators	-Internal
HRDC	- OCS request (specify needs of experiment: irrigation, fertilizer, pesticide application, etc)	Y	<i>Nursery, Field and Crop Management</i>	- Properly executed SOP - Updated monitoring report	- HRDC - IRS ZES TCPA -SSS	-Internal
HRDC IRS-ZES	- OCS request (threshing, seed cleaning, seed fumigation) - approval of request	Y	<i>Post Harvest Management</i>	- Completed OCS request	- SHU - SSS	-Internal
IRS-CCO	- seed sampling, GOT (grow out test), Germination Test storage	Y	<i>Seed Quality Management</i>	- "Truthful Labeling"	- HRDC	-Internal
HRDC	- request for seed distribution		<i>Seed Distribution</i>	- Timely seed distribution	- SHU - HRDC Members	- Internal - External

CURRENT VALUE STREAM MAP



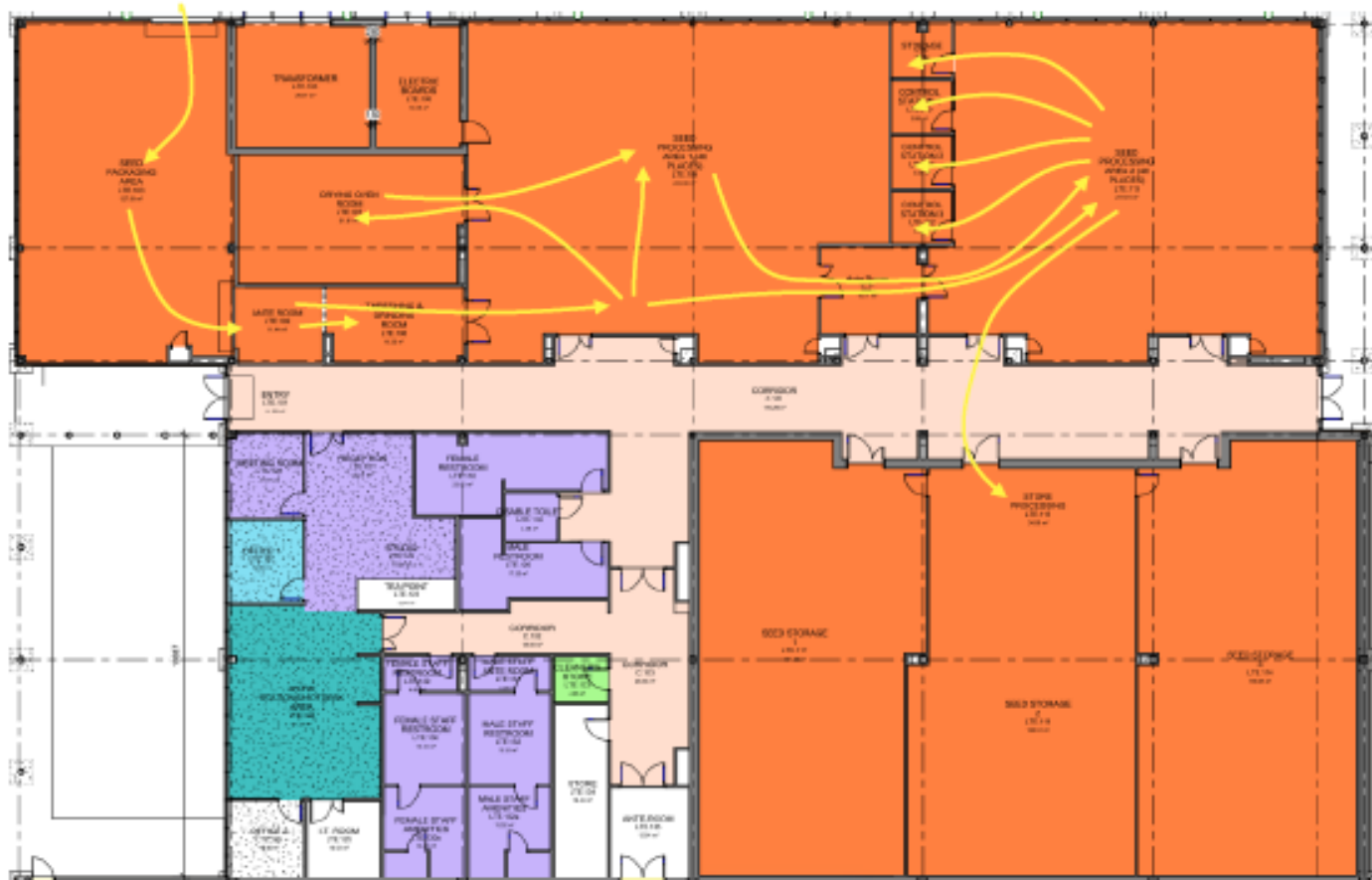


3. Create flow



- Flow is a key concept.
- When creating flow the goal is to ensure smooth delivery from the second you receive an order to the moment when you deliver it to the customer.

SPAGHETTI DIAGRAM - MATERIAL (SEED) FLOW



- Circulation
- Common and Services Areas
- PPS Maintenance Room
- RBO / RIO Shared Space
- Research Infrastructure Operation (RIO)
- Rice Breeding Operation (RBO)
- Zeigler Experiment Station (ZES)

PGF

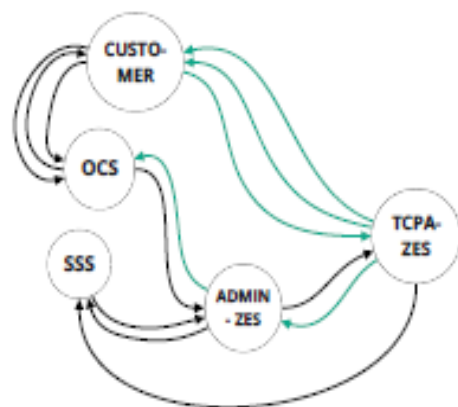
Plant Growth Facility

Things to be improved:

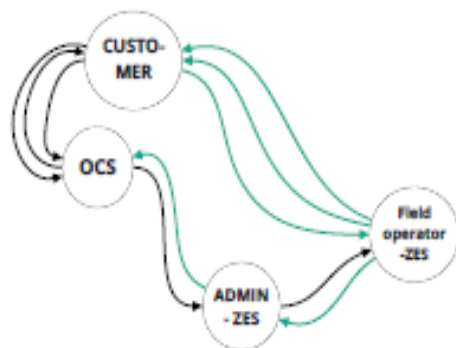
- * Automation in data collection
- * Tool in B4R
- * Dedicated Developer in B4R tool

CURRENT INFORMATION FLOW individual request

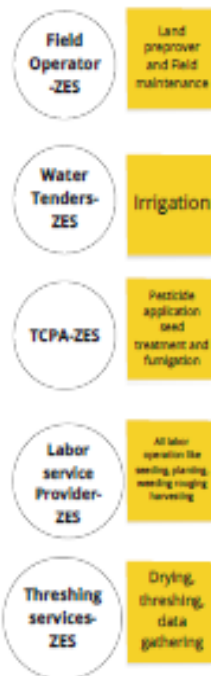
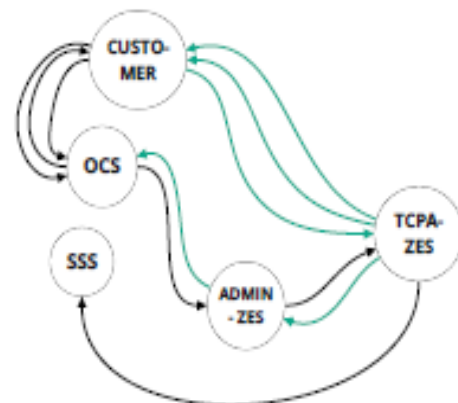
Information flow for each application request
(carbofuran)



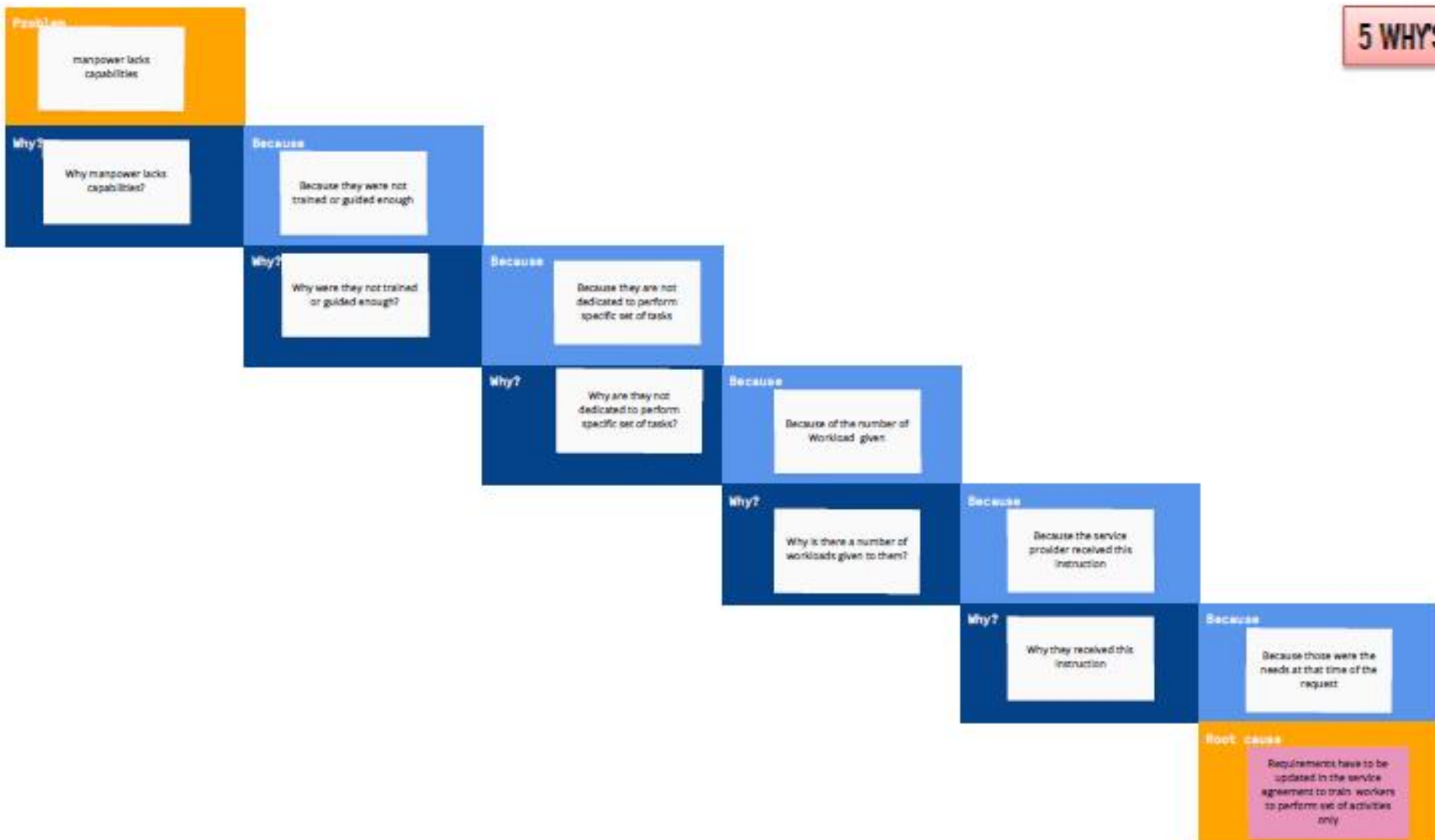
Other activities
(LAND PREPARATION)



Information flow for each application request
(other pesticides)



5 WHYS

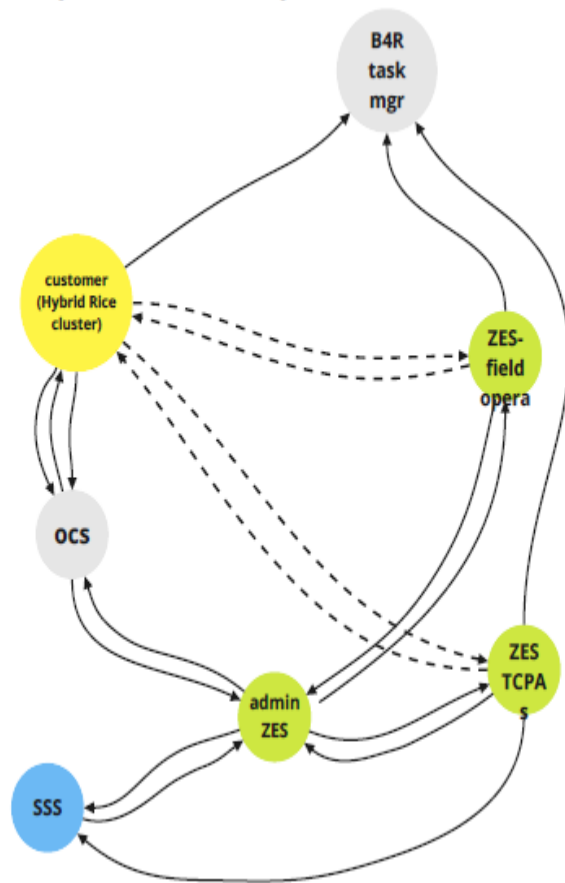




FUTURE: INFORMATION FLOW (pooled/unified requests)

IDEAL FLOW (100% unified requests)

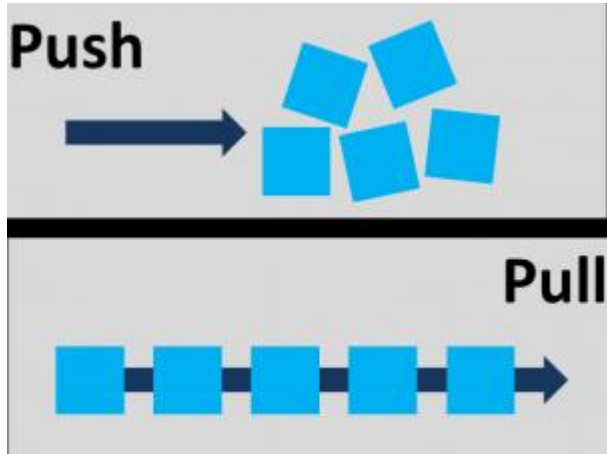
By unifying the requests to OCS for the whole season....



broken li
spaghet
fettuccin




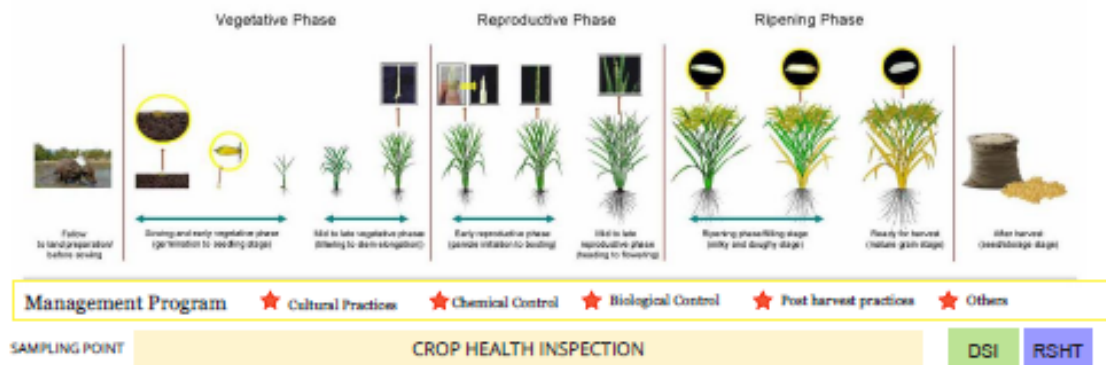
4. Establish pull



- consider the customer's perspective on the final product
- effectively looking at the operations of the service

LEAN ACTION PLAN

PRIORITY RANK	PROGRAM	TASK / ACTION	WHO		STATUS
1	Planning and Unified OCS Requests	<ul style="list-style-type: none"> - Dedicated committee to create a template form to capture all relevant information (Checklist) and to provide sharing instructions - Share with customer for review, approval and implementation. 	Jun, Ben, Rhulyx Martina	30 d	
2	GK Service Agreement	<ul style="list-style-type: none"> - Identify/List of non-critical activities - To identify control points (CTQ and variations) (implement mistake proofing) - Learning and development plan by GK 	Jun Shery, Vel Ed / Jaesel	30 d 60 d 90d	
3	RT Trainings	<ul style="list-style-type: none"> - Prepare training material - Classroom training on Quality control points - Schedule season long training on rice seed production and seed quality mgt. 	Gids, Ben, Sheryl, Roy/Anna	30 d 60 d 120 d	
4	Disease Management	<ul style="list-style-type: none"> - Create proposal of measures to implement (ZES+CCO+HRC) - Meeting with experts to assess proposal and generate final document - create SOP/WI 	Ben, Gids, Rhulyx, Roy	30 d 30 d 60 d	



	CROP HEALTH INSPECTION	DRY SEED INSPECTION (DSI)	ROUTINE SEED HEALTH TEST (RSHT)
How to collect	insect pest & disease incidence or severity	Visual inspection of seedlots (presence of mixture, other contaminants)	No. of contaminated seedlots based on SHU-RSHT
Group size	per plot <i>number of rows x no. of hills</i>	100 seedlots	100 seedlots (randomly selected)
How often	per crop stage: seeding, vegetative (max tillering), reproductive (booting and grain filling), ripening stage	one (1) per season	one (1) per season
Method of recording	crop health monitoring record	Inventory Movement (SWIM) sampling record (QMS SOP)	RSHT reports (QMS SOP)
Who will record	Researcher or CCO-BSREC	Seed warehousing service Unit	SHU-RSHT
How will data be displayed	B4R (IRRI-SES)	present total lines inspected, number of lines passed inspection	present total no. of tested lines and positive lines and rate of infection
How to communicate results	B4R, delivery reports	delivery reports	shipment reports

4 DISEASE MANAGEMENT CONTROL PLAN

MEASURE	OWNER / NAME	FREQUENCY	HOW MANY	ACCEPTABLE	RESPONSE
Crop health inspection plan	Roy	3x in 1 cropping season	1 plot	100%	Meetings, If-Then
Dry seed inspection plan	Gids	every dispatch schedule	100 seedlot	91%	Meetings, 5-Whys, If-Then
Routine seed health testing plan	Sheryl	every dispatch schedule	100 seedlot	91%	Meetings, 5-Whys, If-Then



GANTT CHART

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ									
1	Project Name: Addressing Crop Health through sustainable field management																																								Gantt Chart Template ©																				
2	International Rice Research Institute																																																												
3																																																													
4	Project Start Date	1/Sep/2020										Display Week	1										Week 1	Week 2	Week 3	Week 4	Week 5	Week 6																																	
5	Project Lead	Martina Castellon																				31 Aug 2020	7 Sep 2020	14 Sep 2020	21 Sep 2020	28 Sep 2020	5 Oct 2020																																		
6	Project Manager																					31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9
7																																																													
8	WBS TASK	LEAD	PREDE	START	END	DAYS	%	WORK																																																					
9	1	IMPLEMENT A CONTROL SYSTEM FOR CONTRACT WORKER'S NON CRITICAL ACTIVITIES																																																											
10	1.1	Identify List of noncritical activities	Jun Cortes	1/Sep/2020	30/Sep/2020	30	0%	22																																																					
11	1.2	To identify control points (CTO and variational (implement mistake proofing)	Willem	30/Sep/2020	30/Oct/2020	30	0%	22																																																					
12	1.3	Adoption of provision into service agreement and monitor competences of CM workers	Jun Cortes	30/Oct/2020	27/Nov/2020	30	0%	22																																																					
13	2	Disease management strategy																																																											
14	2.1	Create proposal of measures to implement (ZES+CCD+HRG)	Ben Orjans	1/Sep/2020	30/Sep/2020	30	0%	22																																																					
15	2.2	Meeting with experts to assess proposal and generate final document	Rhysa Member	30/Sep/2020	30/Oct/2020	30	0%	22																																																					
16	2.3	Develop SOP and WIs	Roy Vjandra	20/Oct/2020	27/Nov/2020	30	0%	22																																																					
17	3	RT Trainings - Capacity Building																																																											
18	3.1	Prepare training material	Ama Sevilla	20/Oct/2020	27/Nov/2020	30	0%	22																																																					
19	3.2	Classroom training on Quality control points	Roy Vjandra	27/Nov/2020	28/Oct/2020	30	0%	21																																																					
20	3.3	Schedule season long training on rice seed production and seed quality mgmt.	Gideon Torres	27/Nov/2020	25/May/2021	180	0%	138																																																					
21	4	Planning & Unified OGS Request																																																											
22	4.1	Dedicated committee to create a template form to capture all relevant information	Martina Castellon	1/Sep/2020	30/Sep/2020	30	0%	22																																																					
23	4.2	Share with customer for review approval and implementation.	Jun Cortes	30/Sep/2020	9/Oct/2020	10	0%	8																																																					
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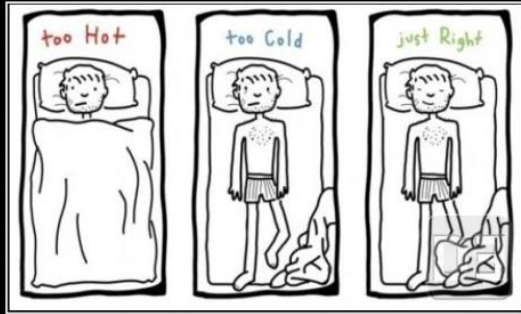
Beyond training...

- Meeting with stakeholders/customers
- Establish 30, 60, 90 days check – in
- Establishment of Friday afternoon as CI hour
 - To review the project



5. Seek perfection

- constantly analyze each process for the increase in value (reduced cost, time, resources used, space, etc.).
- focus on the elements that add value and eliminate those that do not.
- tighten the flow and deliver the value as the customer needs.



Perfection

Is not that hard

Demotivation.us



Impact from implementation of CI

- Work planner/scheduler
- Creation of work packages
- Finance tools improvement
- Improved turnaround time
- Removal of waste



From training to creating a culture



IRRI L&D Program: Continuous Improvement Training

SIPOC

SIPOC Diagrams

Presented by: SlideSalad.com





Ongoing 5S implementation





Seed storage area



**Before
5S**



After 5S



Seed Processing area

**Before
5S**



**Sign
boards**



**Floor
lines**

**After
5S**



Seed processing area



**Before
5S**



After 5S

Thank you



HEMMI

PGF

GRC

LAMPE

UMALI

NCBL

SEL
STOP
GE

Drilon

ZES

TRF