

# Potential for Employment Generation of the Rice Value Chain in Mindanao, Philippines

Larry N. Digal and Carol Q. Balgos  
School of Management  
University of the Philippines Mindanao

*Benguet State University  
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# Presentation Outline

- ▶ Importance of Rice in Mindanao
- ▶ Objectives
- ▶ How did we do the analysis
- ▶ Results and Discussions
- ▶ Recommendations
- ▶ Effect of these recommendations to jobs generation
- ▶ Conclusions



# Rice is important in generating jobs and investments

Region	Area in Hectares	Annual jobs generated (with 2 croppings)*	Total annual wages** (in Thousand pesos)	Investment in rice production (in thousand PhP)
Zamboanga	163,096	95,939	5,871,456	6,189,330
Northern Mindanao	161,414	94,949	5,810,904	6,677,374
Davao	103,822	61,072	3,737,592	5,347,871
SOCCSKSARGEN	346,906	204,062	12,488,616	15,136,203
Caraga	174,170	102,453	6,270,120	6,178,158
ARMM	217,422	127,895	7,827,192	8,337,264
<b>Total Mindanao</b>	<b>1,166,830</b>	<b>686,371</b>	<b>42,005,880</b>	<b>48,283,425</b>
<b>Philippines</b>	<b>4,739,672</b>	<b>2,788,042</b>	<b>170,628,198</b>	<b>201,317,575</b>

Source: PAS 2015, DOLE 2015

\*(1.7 has: 1 fulltime job – Javier 2015), \*\*Based on 2015 latest wage rate in agriculture





# Rice is important in terms of poverty alleviation and food security

- Average poverty incidence of top 3 provinces is 48% compared to 37% for Mindanao and 22% for Philippines
- Top provinces are conflict areas

Province	Area				Volume				
	Area in Ha.		% share to Mindanao		Volume in MT		% share to total		Jobs generated
	Ave. 2005-14	2014	Ave. 2005-14	2014	Ave. 2005-14	2014	Ave. 2005-14	2014	2014
North Cotabato	126,919	129,452	12	11	477,397	530,029	12	12	76,148
Sultan Kudarat	114,081	115,605	11	10	404,582	440,496	10	10	68,003
Maguindanao	142,130	154,935	13	13	404,786	386,534	10	9	91,138
South Cotabato	81,829	87,268	8	7	302,325	344,892	8	8	51,334
Bukidnon	78,976	94,175	7	8	325,319	426,641	8	10	55,397
Zamboanga del Sur	70,231	75,171	6	6	302,848	341,395	8	8	44,218
Agusan del Sur	64,094	87,973	6	8	208,112	292,019	5	7	51,749
Lanao del Sur	58,914	59,220	5	5	170,894	164,117	4	4	34,835
Zamboanga Sibugay	44,218	44,352	4	4	159,066	173,535	4	4	26,089
Lanao del Norte	39,565	40,214	4	3	151,852	171,770	4	4	23,655
Other Mindanao provinces	262,602	278,465	24	24	961,631	1,047,877	25	24	163,803
Mindanao	1,083,558	1,166,830	100	100	3,868,813	4,319,305	100	100	686,371

Source: PAS 2015



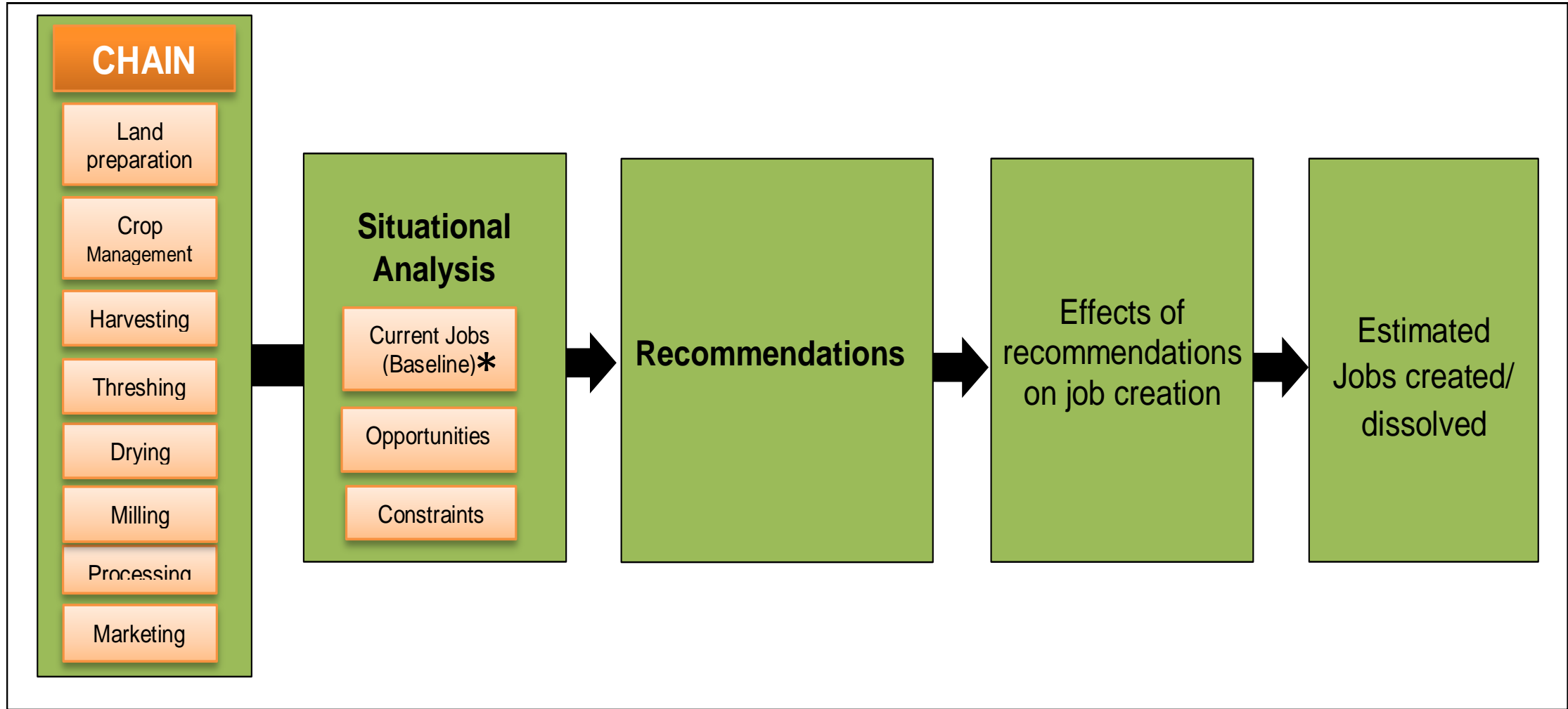
# Objectives

- ▶ To examine issues in the rice value chain with focus on job generation potential
- ▶ To identify current jobs created
- ▶ To identify strategies to address the issues in the rice value chain



# How did we do the analysis?

## Jobs Value Chain Analysis: A Framework



**\*Full time equivalent (FTE): 8 hours/day, 26 days a month, and 12 months a year or 312 days per year**

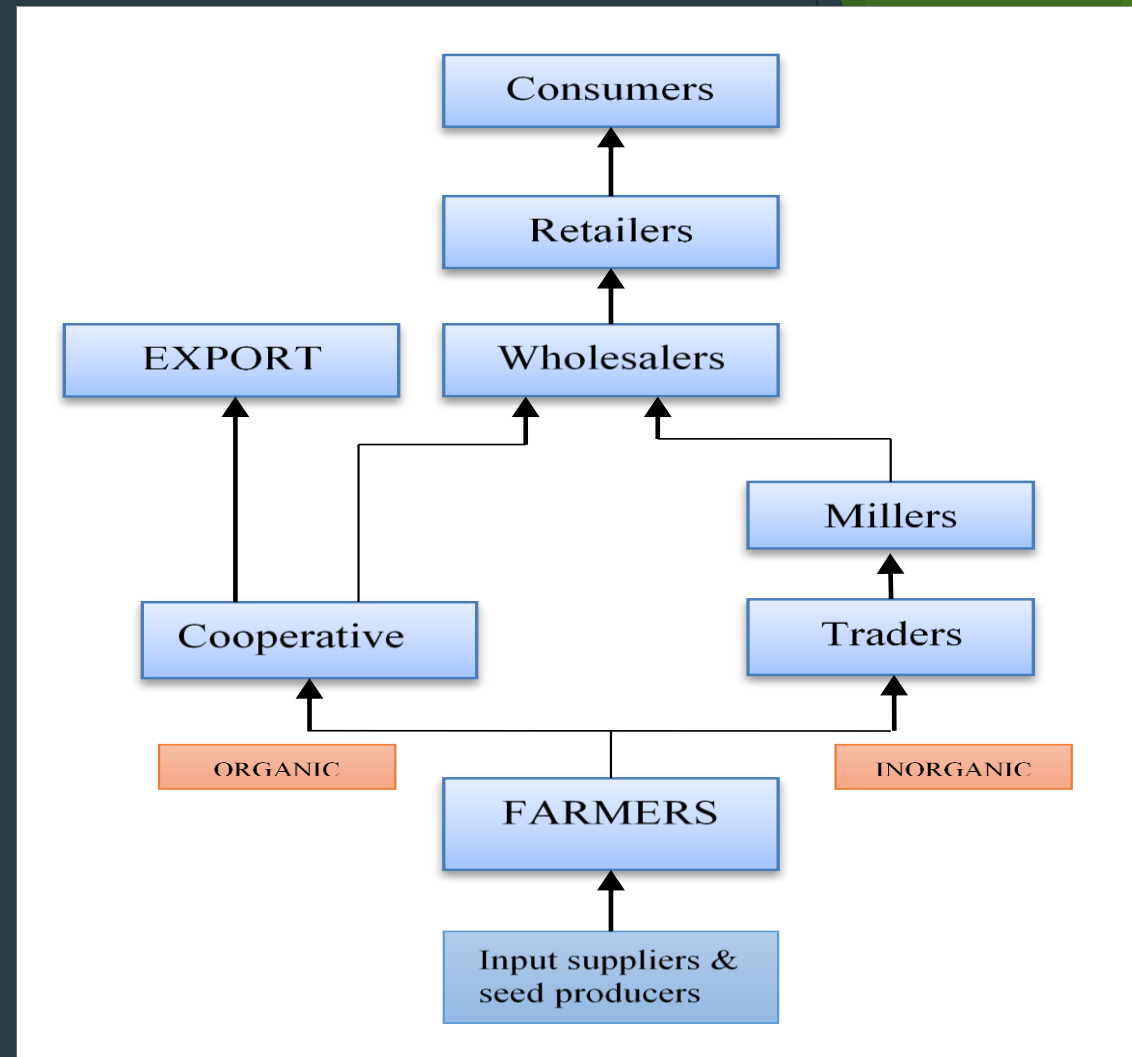
# Case Study Approach

- irrigated vs. rainfed
- hybrid vs. inbred
- organic vs. inorganic/commercial
- monocrop vs. intercrop

## Area: Mlang, North Cotabato

- Primary Data: 28 Key informants (gov't. and private sector, FGDs)
- Secondary Data: World Bank project survey (2014) and CRS-USAID (2015); PAS, etc

## Rice value chain map in Mlang, North Cotabato



# Results and Discussions





## Mlang Rice value chain jobs generation per hectare (organic-irrigated)

Actor/Node	Activities	ManDays/season per ha.	1 yr. FTE (2 seasons)
Farmers	<b>Production</b>	<b>50.83</b>	<b>0.33</b>
	<i>Land preparation</i>	8.32	0.05
	<i>Crop management</i>	42.51	0.27
	<b>Post-production</b>	<b>22.75</b>	<b>0.15</b>
	<i>Harvesting</i>	20	0.13
	<i>Threshing</i>	1.5	0.01
Trader Wholesaler-Miller Cooperative	<i>Hauling</i>	1.25	0.01
	<b>Processing</b>	<b>9.81</b>	<b>0.06</b>
	<i>Hauling</i>	0.38	0.00
	<i>Drying</i>	6	0.04
	<i>Milling</i>	1.17	0.01
	<i>Packing</i>	1.28	0.01
Wholesaler Retailer	<i>Trucking</i>	.99	0.01
	<i>Marketing</i>	.03	0.00
<b>Total</b>		<b>83.43</b>	<b>.53</b>



# FTE per node by type of seed and water source for Mlang, Cotabato

Value Chain Node	IRRIGATED						RAINFED*	
	Hybrid	% to total	Organic	% to total	Inbred	% to total	Inbred	% to total
<b>Production</b> <i>(Land preparation/crop mgt.)</i>	0.31	50	0.33	61	0.22	40	0.03	38
<b>Post production</b> <i>(Harvesting, threshing, hauling)</i>	0.22	35	0.15	27	0.18	33	0.03	39
<b>Processing</b> <i>(Drying, Milling, packing, etc)</i>	0.07	12	0.06	12	0.06	11	0.01	17
<b>Marketing</b> <i>(Wholesaling/retailing)</i>	0.02	4	0.0002	0	0.02	4	0.004	6
<b>Total labor (Rice)</b>	0.63	100	0.53	100	0.48	88	0.08	100
<b>Labor in Intercropping</b> <i>(Watermelon/melon)</i>					0.07	12		
<b>Total labor with intercrop</b>					0.55	100		

\*(1) one cropping per year

Source: KII 2015



# What is the baseline or the current estimated jobs?

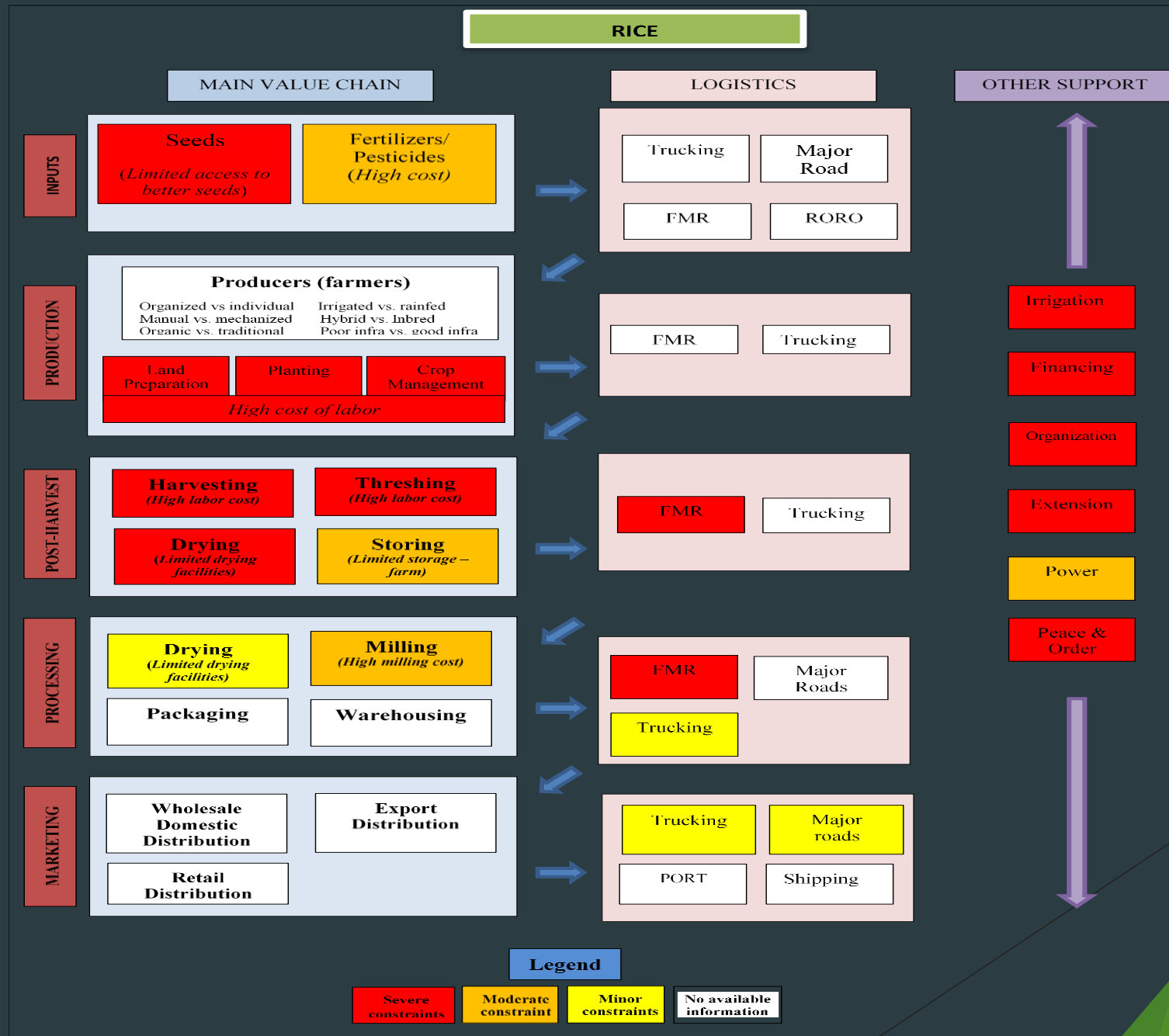
Baseline jobs by node for Mlang, North Cotabato, and Mindanao

	Mlang		North Cotabato		Mindanao	
Value Chain Nodes	Jobs	% to total	Jobs	% to total	Jobs	% to total
<i>No. of has. Harvested</i>	22,868		125,731		1,189,266	
Production	1,893	45	10,355	45	97,516	44
Post production	1,577	37	8,514	38	83,141	37
Processing	553	13	2,991	13	28,895	13
Marketing	180	4	920	4	9,691	4
Total labor	4,203	99	22,781	100	219,243	99
Labor in Intercropping (Watermelon)	45	1	30	0	2,551	1
Total labor with intercrops	4,249	100	23,011	100	221,796	100





# What are the key constraints in the chain?





Constraints	Effects on job creation	
Production	Direct	Indirect
Inadequate access to better seeds	<ul style="list-style-type: none"> <li>• Less labor due to low volume/productivity</li> <li>• (harvesting, threshing, logistics, processing, etc.)</li> </ul>	<p>Decreases productivity and profit; limits expansion thus lower labor use</p>
Insufficient access to irrigation	<ul style="list-style-type: none"> <li>• Decrease use of labor due to limited cropping frequency</li> <li>• Limited intercropping (low labor use)</li> </ul>	
Limited access to credit	<ul style="list-style-type: none"> <li>• Decreases labor due to low productivity</li> <li>• Limited intercropping - high production cost</li> </ul>	



Constraints	Effects on job creation	
Production	Direct	Indirect
High labor cost	Decrease labor as it increases demand for mechanization	Increases cost and decreases profitability; limits expansion thus lower labor use
Limited intercropping	decrease labor use (monocropping)	
Post-harvest		
Poor road conditions from farm to post-harvest facilities & market	Increase labor use (manual and animal hauling)	



# What are the strategies to address the constraints?

## Improve productivity

- assist farmers and farmer groups in choosing suitable seeds
- repair/rehabilitate damaged irrigation facilities and fast-track implementation of irrigation projects
- Link farmers to microfinance institutions
- Encourage microfinance institutions to develop financial products for production and consolidation





## Lower production and marketing costs and Improve prices

- Promote mechanization in applicable areas
- Improve road conditions from farm to post-harvest facilities and market
- Promote investment for accessible post-harvest facilities in deficit areas





## Diversify income sources

- Provide technical assistance including market linkages for appropriate crops and enterprises to diversify sources of income



## Other strategies

- ✓ Improve delivery extension services by strengthening producer organizations
- ✓ Organize and develop para-technicians (model farmers)
- ✓ Organize selected laborers and capacitate them to provide mechanization services
- ✓ Develop programs to provide livelihood to some displaced workers
- ✓ Enhance initiatives on product differentiation (eg organic products, traditional varieties) by providing assistance in improving market linkages
- ✓ Identify contiguous production areas with targeted producer organizations and link this supply with buyers



# What is the impact on jobs if strategies are implemented?

Potential impact of strategies on Jobs in Mindanao: 36,672 additional jobs

Recommendations	Direct Impact	Indirect impact	Total
Adequate access to better seeds (increase of 1% to 4%)	1,833	Increase in profit and income	36,672
Sufficient access to irrigation (increase 64% to 80%)	30,231		
Intercropping (increase from 5% to 10%)	3,805	4% expansion of areas	
Increase organic rice production (from 2% to 5%)	1,369		
Mechanization (Planting, harvesting & drying) - 5% of lowland areas	(5,638)		
Better road conditions from farm to post-harvest facilities and market	(481)		
Total	31,118	5,554	36,672





# What can we conclude and learn?

- Job generation is significant particularly in the production side(61%) - opportunities for landless farmers and laborers in conflict and poor areas
- Constraints substantially limit job generation potential
- But there are opportunities or strategies to address these that can increase employment by as much as 18%
- Needs to study further: net benefits of strategies, quality aspects of jobs, other strands in the chain (inputs, upland rice, processed products)





# Thank you!

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