



សាកលវិទ្យាល័យភូមិន្ទកសិកម្ម

មហាវិទ្យាល័យ កសិឧស្សាហកម្ម
ផលិតផលស្មៅដំឡើង



ទំនាក់ទំនង: មហាវិទ្យាល័យ កសិឧស្សាហកម្ម

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Journey of Innovation of Agro-Processing in RUA



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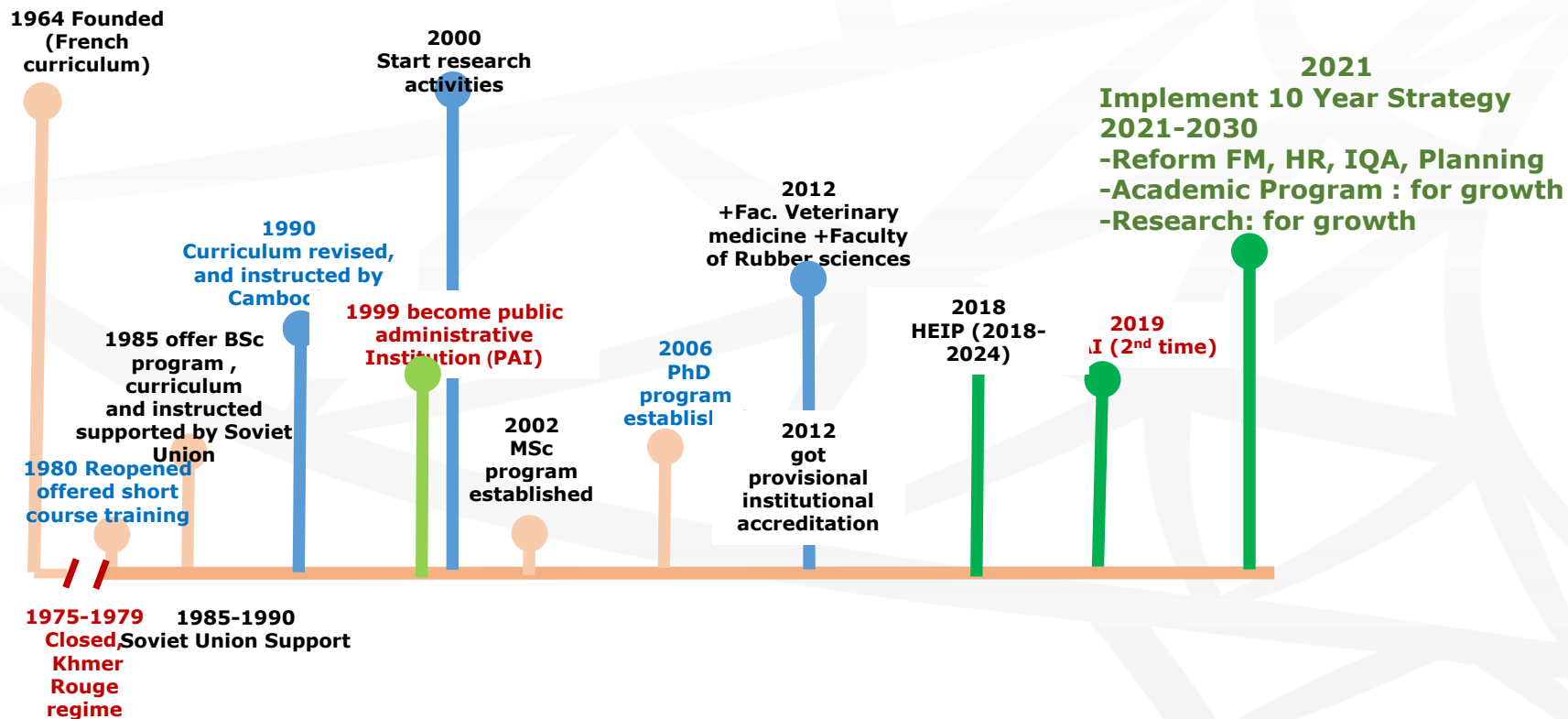
Content

- Brief about Royal University of Agriculture
- Product Development: A case study of rice liquor
- Extension and training services





RUA Timeline





RUA Strategy

- 1st 10 Year Strategy (2001-2010)
- 2nd 5 Year Strategy (2011-2015) & 5 Year Strategy (2016-2020)
- 3rd 10 Year Strategy (2021-2030)
 - Envisioning, Enabling, Empower and Energizer
 - Mission: 1) Produce high quality graduate in agriculture (student graduate from standard program), 2) Produce basic and applied research output link with market and growth





Role of Royal University of Agriculture

Education

Research

Industry-link

RUA

Education

Specialists

**High
productivities &
new products**

Research

**Basic &
applied
research**

**New Tech. & new
products**

**Productivity
& Growth**

Animal & poultry, Fish and fish product, crop production, Food Science, Natural resources and Rural development

Agriculture R&D Framework



Make graduate to be

Making Graduate to Be

How?

Quality: graduate have abilities to do expected tasks of the profession at the workplace

Relevance: graduate gain adaptability skills that could response to current market and yet to create market

Better Jobs: productivity, career growth, and happy life

Better Wage: equal to GNI per capita of the high middle income country



Competencies at workplace:
Technical
Knowledge and
Skill

Critical Thinking

Growth Mindset

Communication

Creativity

Collaboration

Citizenship

Entrepreneurship

Project Based Learning Approach



Product Development: A case study rice liquor

Purpose

To Promote Agro-processing in Cooperation with Royal University of Agriculture, Cambodia (RUA)

Activities

Quality Improvement of Processed Products



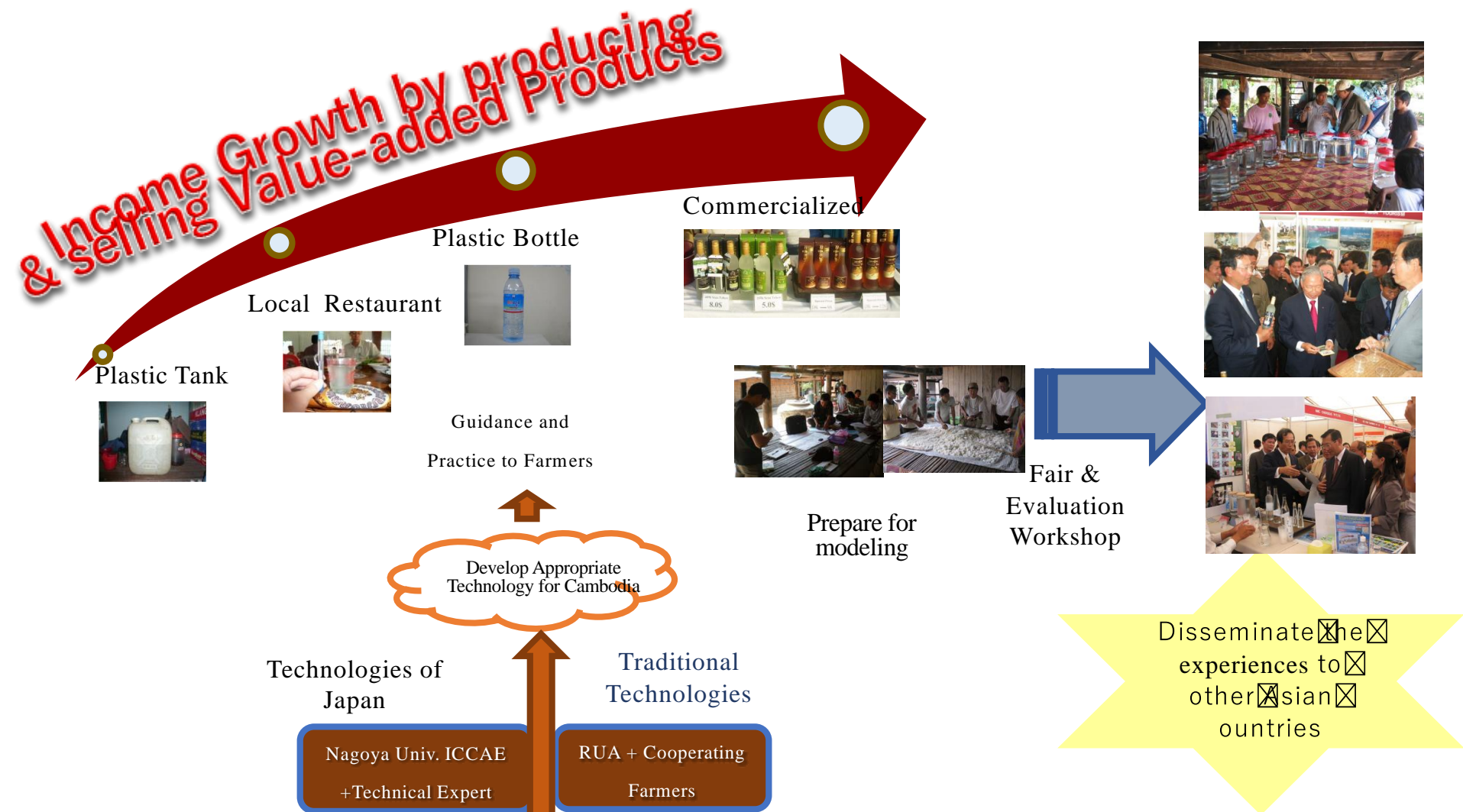
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Quality Improvement of Processed Products





Potential of Quality Improvement in Agro-processing in Cambodia

1. Process

Technical issues &

2. Technical modification

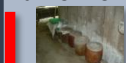
& its results

3. Quality evaluation

a. Rice cooking



b. Fermentation



c. Distillation



- Result in burning rice by boiling

Smoky

- Insanitary conditions
- Measure temperature by hand and material amount by eyes
- Use pond water

Contamination ⇒ Sour, spoiled

Muddy

Failure in fermentation

- No check/no control fermentation condition.

- Burn fermented rice
- Set low pipes ⇒ rice jump into the liquor.

Smoky

Cloudy

- No separation of liquor by quality



- Steam rice



- Clean working place
- Wash and dry equipment



- Use thermometer
- Scale raw materials



- Use well water



- Check conditions
- Measure temperature
- Control temperature



- Separate solid and liquid part

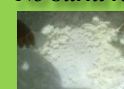


- Set higher pipes



- Divide liquor by quality

No burnt rice



No failures in fermentation



~~Sour Spoiled Muddy Smoky~~

No burnt fermented rice



Clear liquor



Insanitary condition, burning, fermentation management and distillation methods were identified as causes of low quality.

Sour, spoiled, muddy, smoky and cloudy condition of rice liquor were reduced by simple technical modification and production control.



Compare two rice liquors by tasting

- Liquor from the trial
- Liquor produced by general farmer in Takeo.

Preference of rice liquor by Cambodian		
	Answer	%
Prefer trial liquor	207	61%
Prefer farmer's liquor	120	36%
Dislike both	4	1%
No answer	6	2%
Total	337	100%

Taste and smell of trial liquor were acceptable for many consumers.

Commercialization possibility of the trial rice liquor		
	Answer	%
Sufficient	220	65%
High possibility	49	15%
Need improvement	59	18%
Insufficient	1	0%
No answer	8	2%
Total	337	100%

Trial rice liquor was evaluated as sufficient quality for commercialization.

Quality of trial rice liquor received high evaluation

Conclusion: Rice liquor in Cambodia has possibility for further improvement with simple technical modification and production control. In the next step, it should be studied whether those techniques are adaptable for rice liquor producers.



Extension and training services

- a. Product development
- b. Self-life assessment
- c. Packaging technology
- d. Food Processing technology: Beverage, bakery, meat, cereal, Fruit and vegetable, seafood, brewing, alcoholic beverage
- e. Functional foods and ingredient
- f. Food Safety
- g. Preventive controls for human food
- h. GMP & HACCP
- i. Basic knowledge for food entrepreneurs

