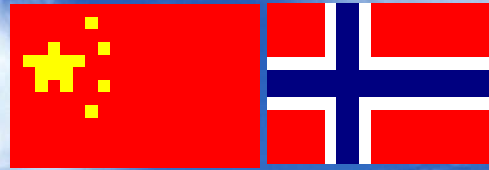


Norway-China White Fish Processing Research



WHITE FISH PROCESSING IN CHINA

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30-10-2013



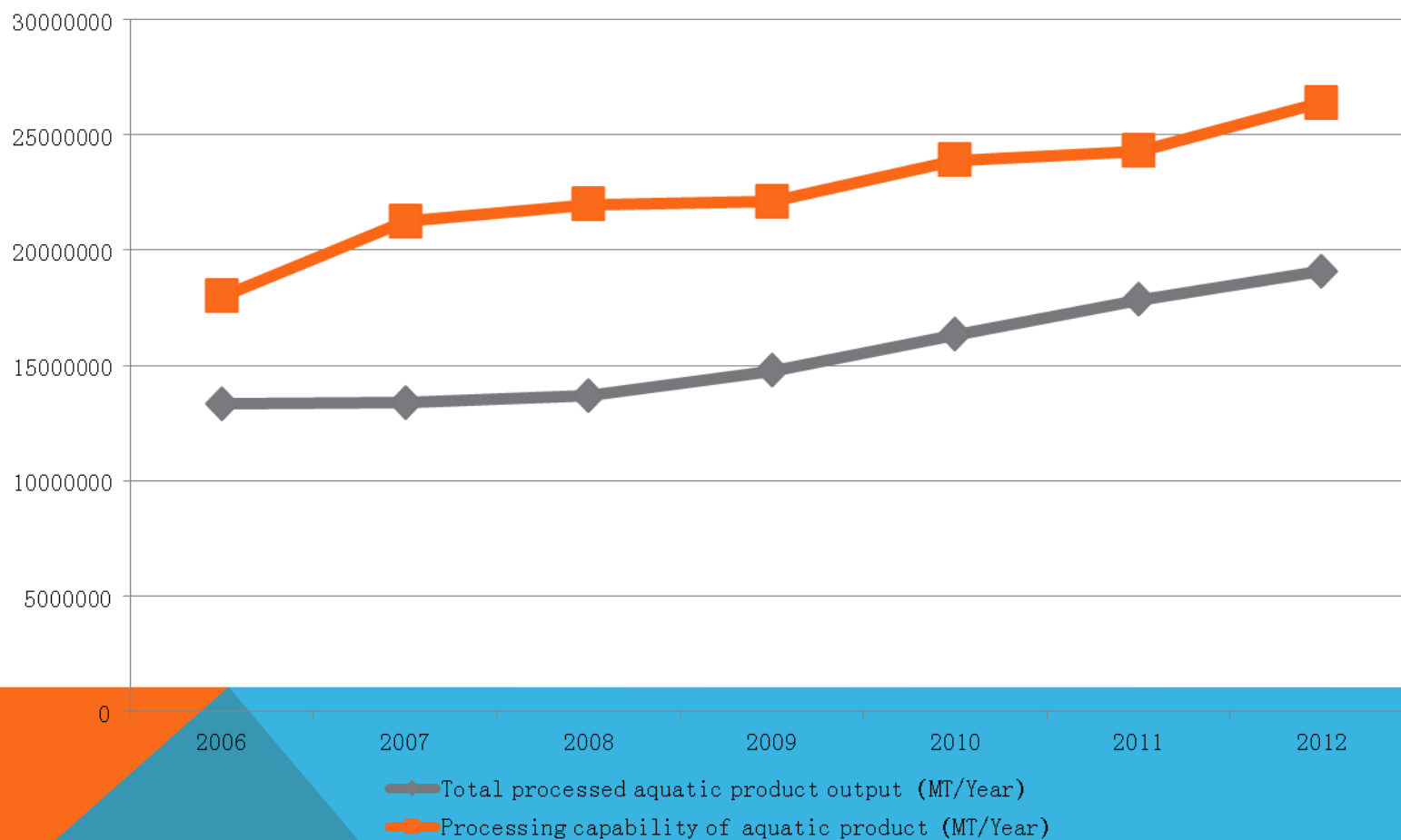
Outline:

General Introduction of Aquatic Product Processing in China

Changes of the White Fish Processing in Shandong

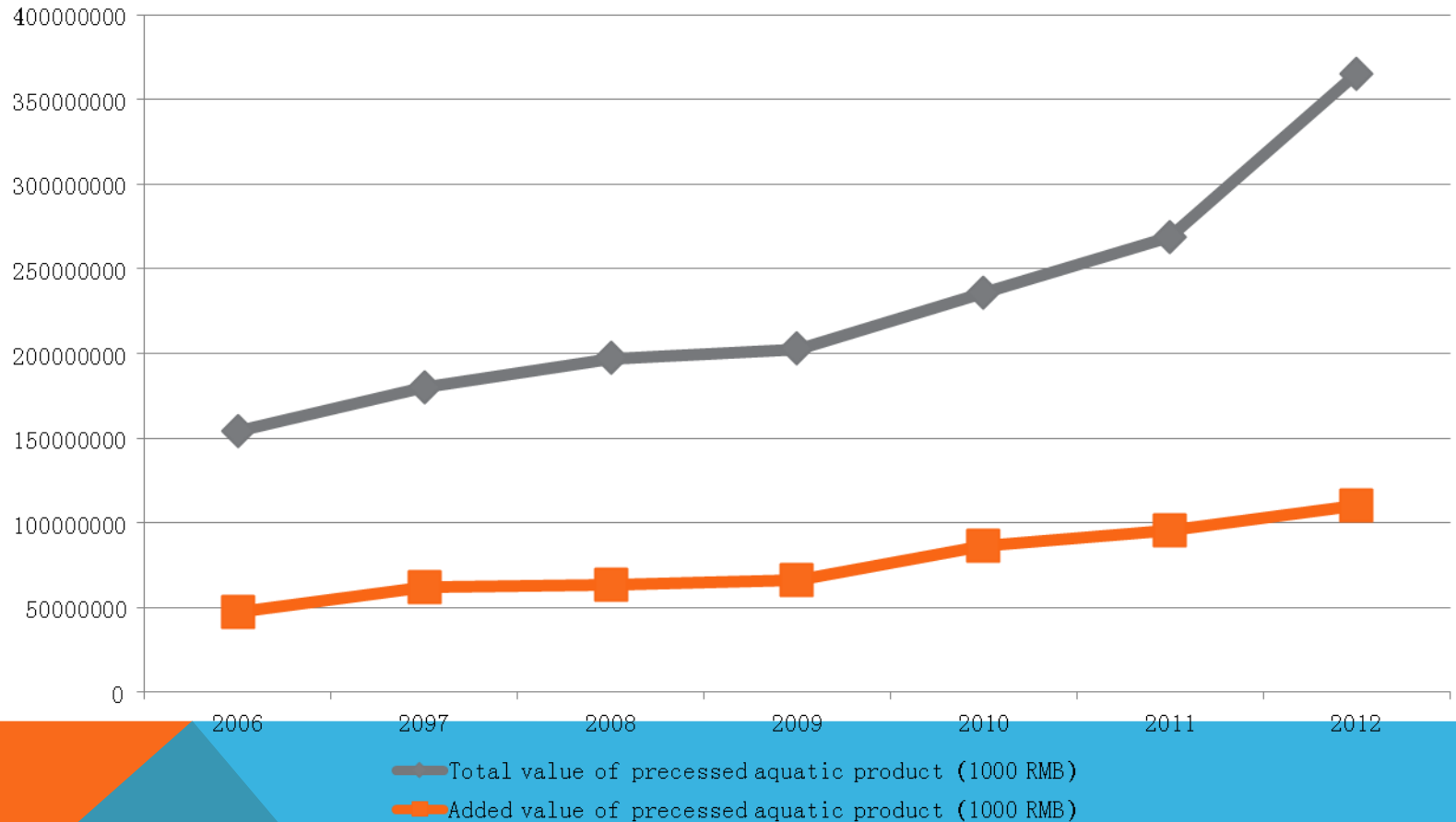
Logistics and Value Chain

1.1 Total Processing Output And Processing Capability Of Aquatic Product From 2006 To 2012 In China



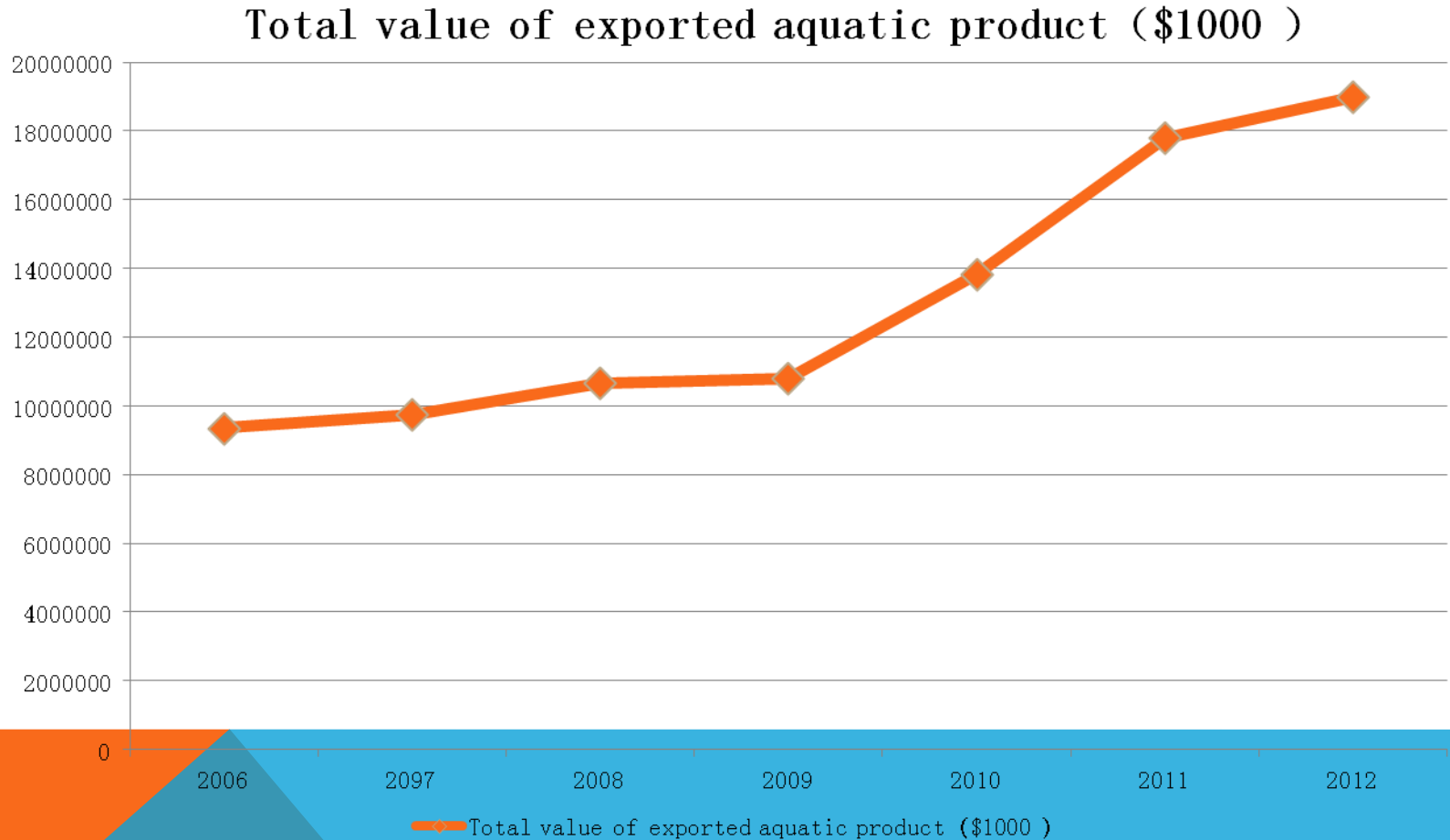
Data Resource: China Fishery Statistical Yearbook

1.2 Added Value And Total Value Of Processed Aquatic Product From 2006 To 2012 In China



Data Resource: China Fishery Statistical Yearbook

1.3 Total Value Of The Exported Aquatic Product From 2006 To 2012 In China




Data Resource: China Fishery Statistical Yearbook

2. Changes of The White Fish Processing in Shandong

The output of aquatic product processing in Shandong province accounts for 1/3 in China. There are a lot of white fish processing factories in Shandong Province, mainly located in Qingdao Chengyang District.

The Chengyang District is the largest processing base of white fish in China. We find that the general status of the white fish processing in Shandong is better than that in last year through further investigation. We will illustrate the changes in details in the following report.



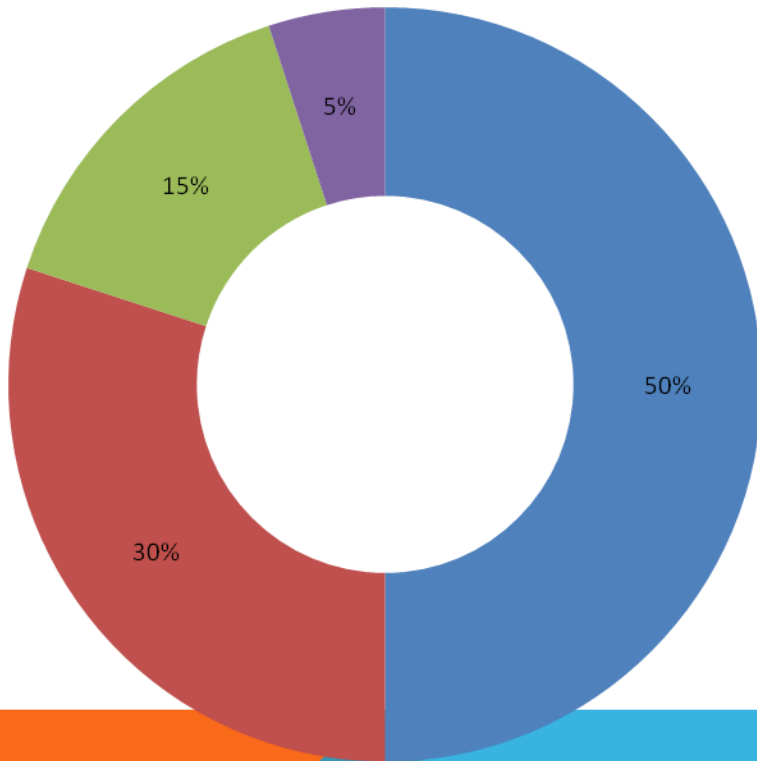
Map of Shandong Province



- Mainly locate in Qingdao Chengyang District
- The largest processing base of ground fish in Qingdao
- Accounts for more than 80% of that in Shandong

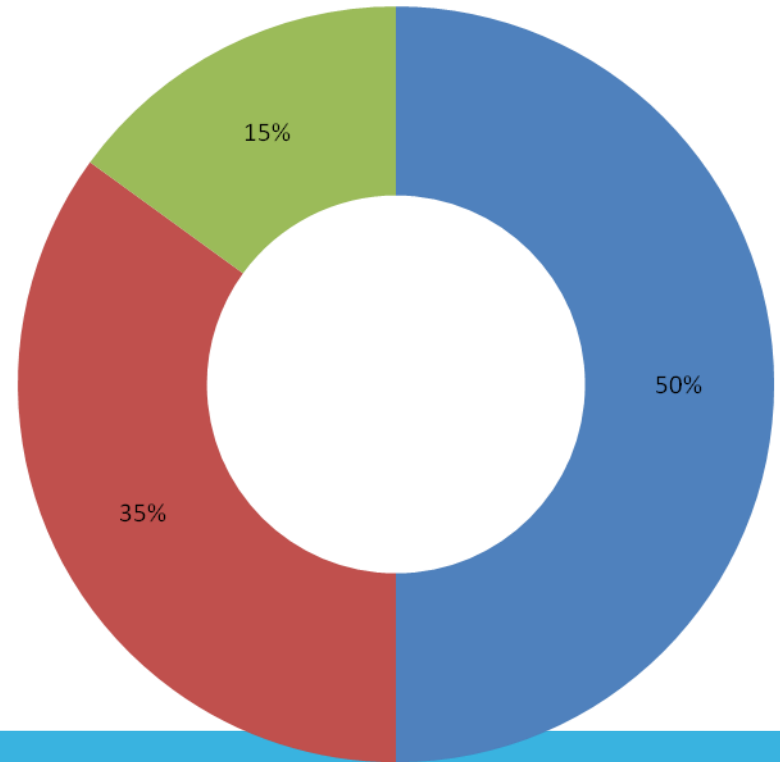
2.1 The Import And Export Countries

Import Countries



■ Russia ■ America
■ Norway ■ Iceland

Export Countries



■ EU ■ America ■ Others

2.2 The Import And Export Prices

	Import Price (CFR \$/MT)	Export Price (FOB \$/MT)
A.COD	2600-2800	5100-5300
P.COD	2000-2500	4100-4500
Haddock	2700-2900	5100-5700
Pollock	1200-1350	2800-2900

2.3 Processing Cost

- The processing cost includes workers' salary, water & electricity, low-value consumables, package, machines depreciation, transport and storage fee, customs and quarantine.
- In 2013, the average processing cost is about \$1010 – \$1130/MT, in which the workers' wage accounts for 70%, and water & electricity accounts for 15%.

2.4 Workers Salary

Type of Job	Wage (RMB/month)
slicing	4000–6000
peeling	3500–4200
other processing job	3200–3500
assisting job (such as cleaning)	2600–3000


2.5 Yield Rate

	Yield Rate
A.COD	65%–70%
P.COD	65%–70%
Haddock	62%–67%
Pollock	63%–68%

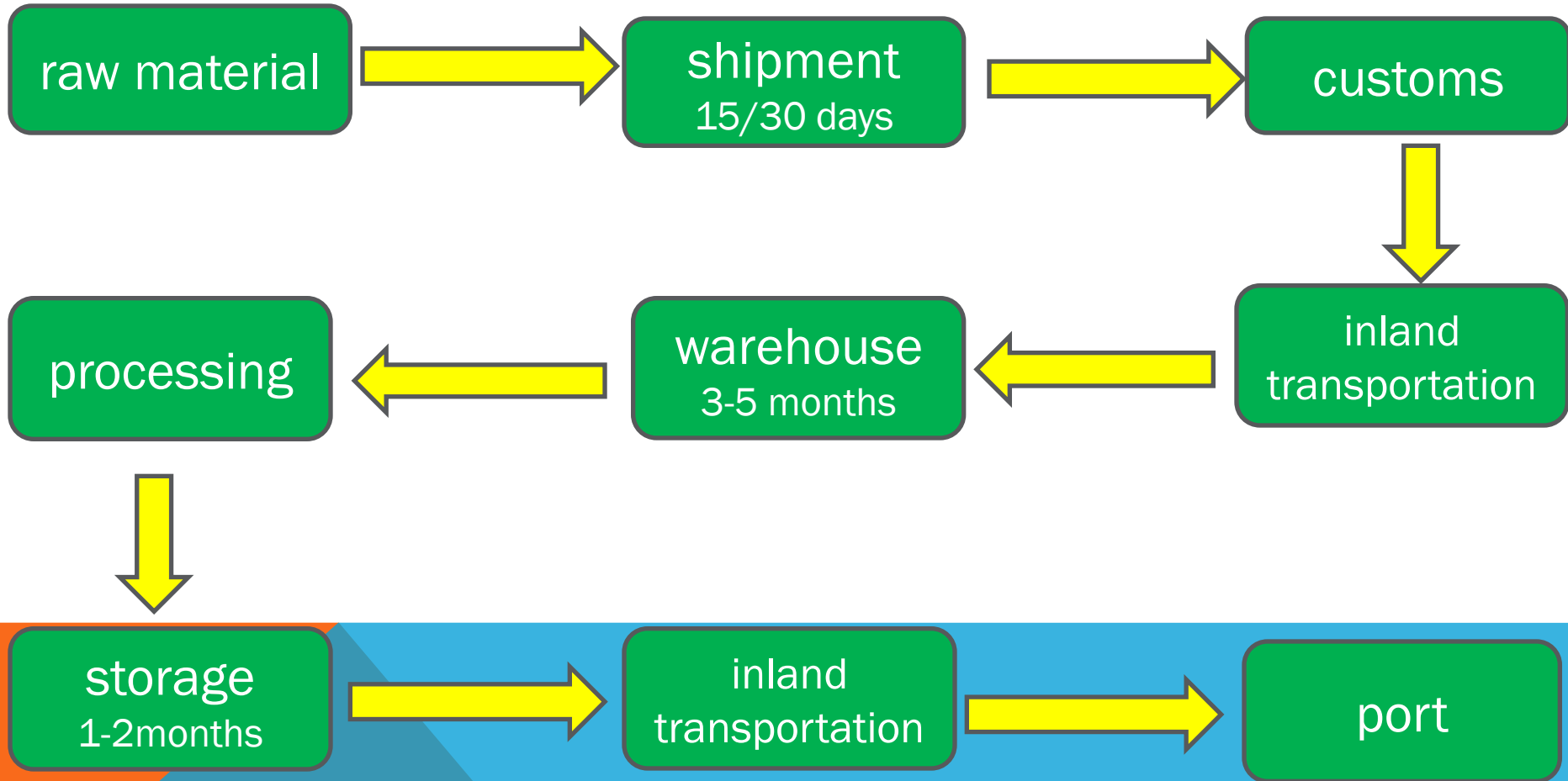
2.6 Will More Machines be Used?

- With the increase of workers' wage, some companies begin to use machines to replace workers. Generally speaking, machine has higher efficiency, for example, one slicer can replace ten workers, but its yield rate is much lower.
- One insider told us that according to our government's goal "citizens' wage will double in 2020, compared with that in 2010", furthermore if the machine can have higher yield rate, then it is inevitable that the machine will replace manual workers in future.

2.7 Food Security

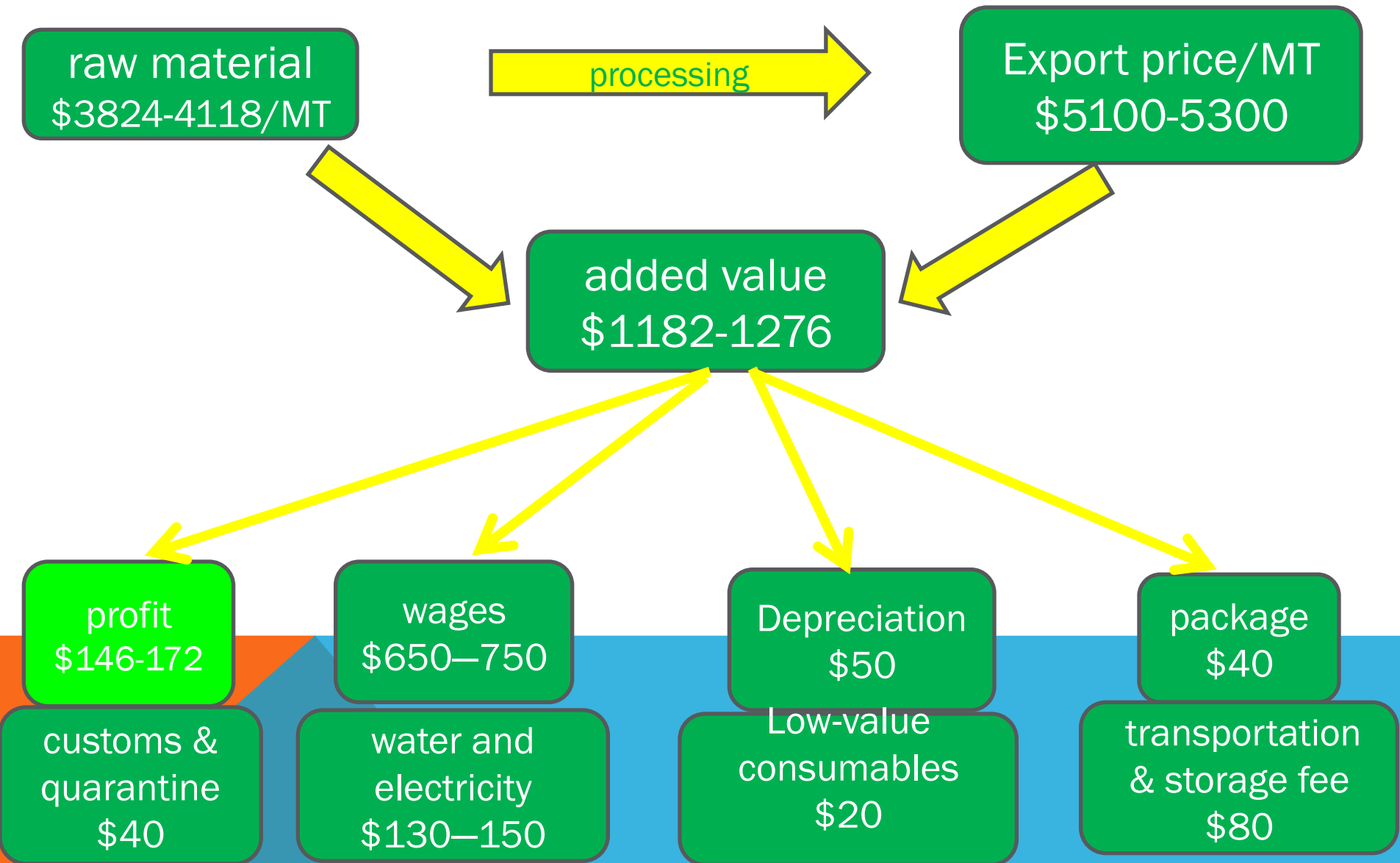
- Generally, the enterprises don't add the food additives, because the raw materials' quality is very good, the Commodity Inspection Bureaus have quite strict additives control and the products exported to EU don't allow to be added additives.
 - Sometimes if they are asked by the clients, the enterprises also add certain additives such as polyphosphate to keep products fresh, white, or even to increase weight. The additives are mainly imported from Europe and USA , and the amount of additives can't exceed the standard.
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3.1 Logistics



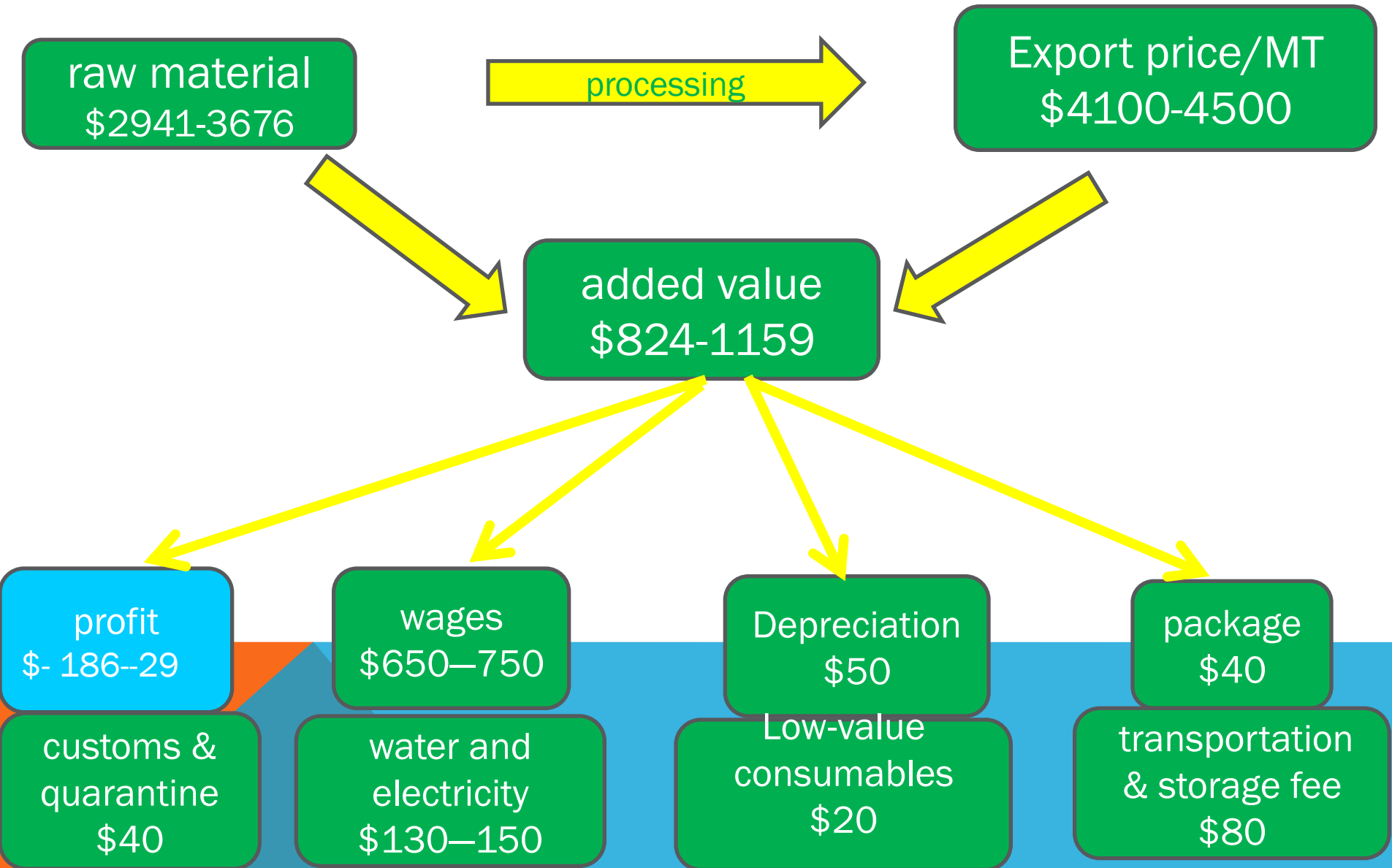
3.2 Value Chain

A.COD, yield rate: 68%



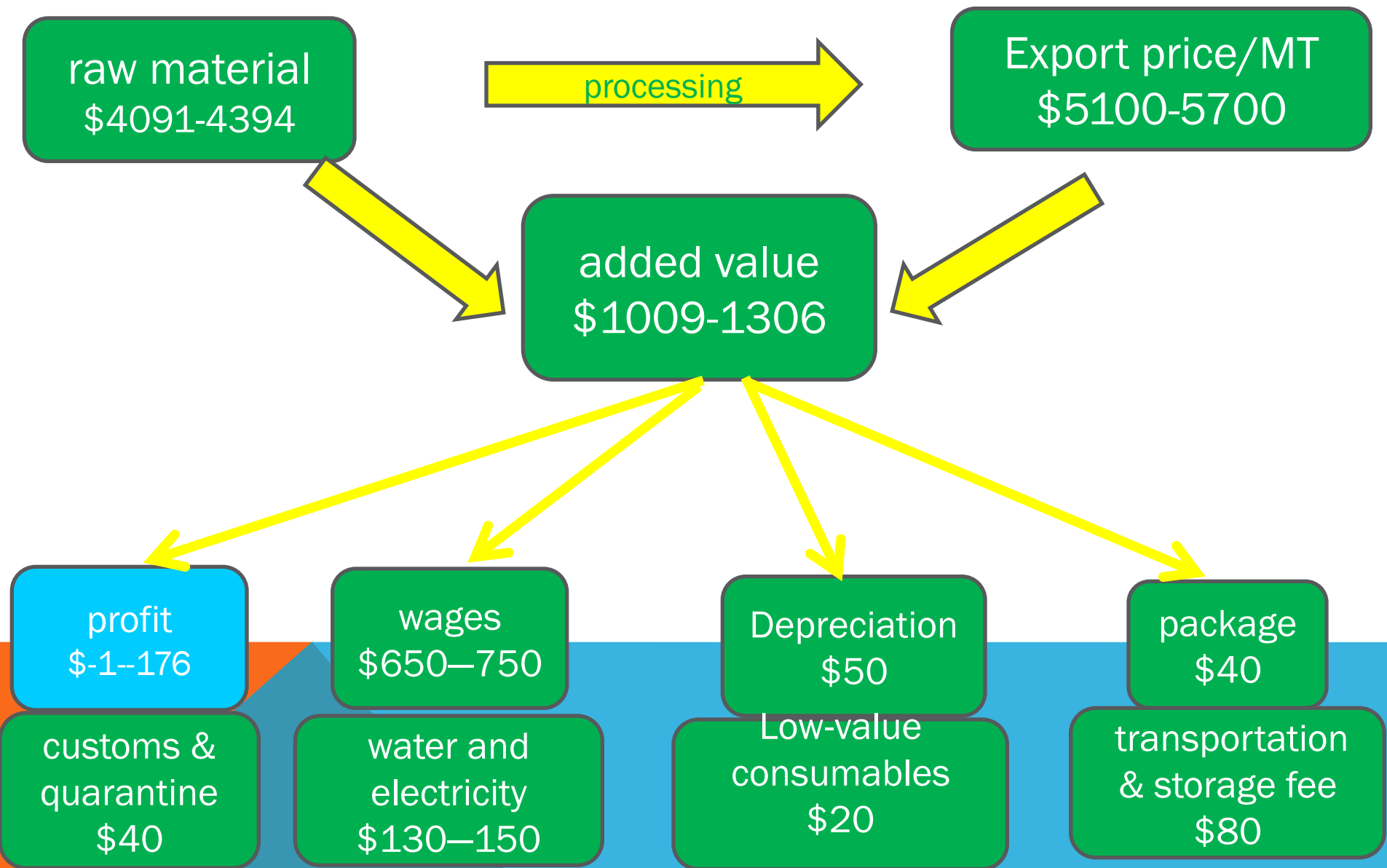
3.2 Value Chain

P.COD, yield rate: 68%



3.2 Value Chain

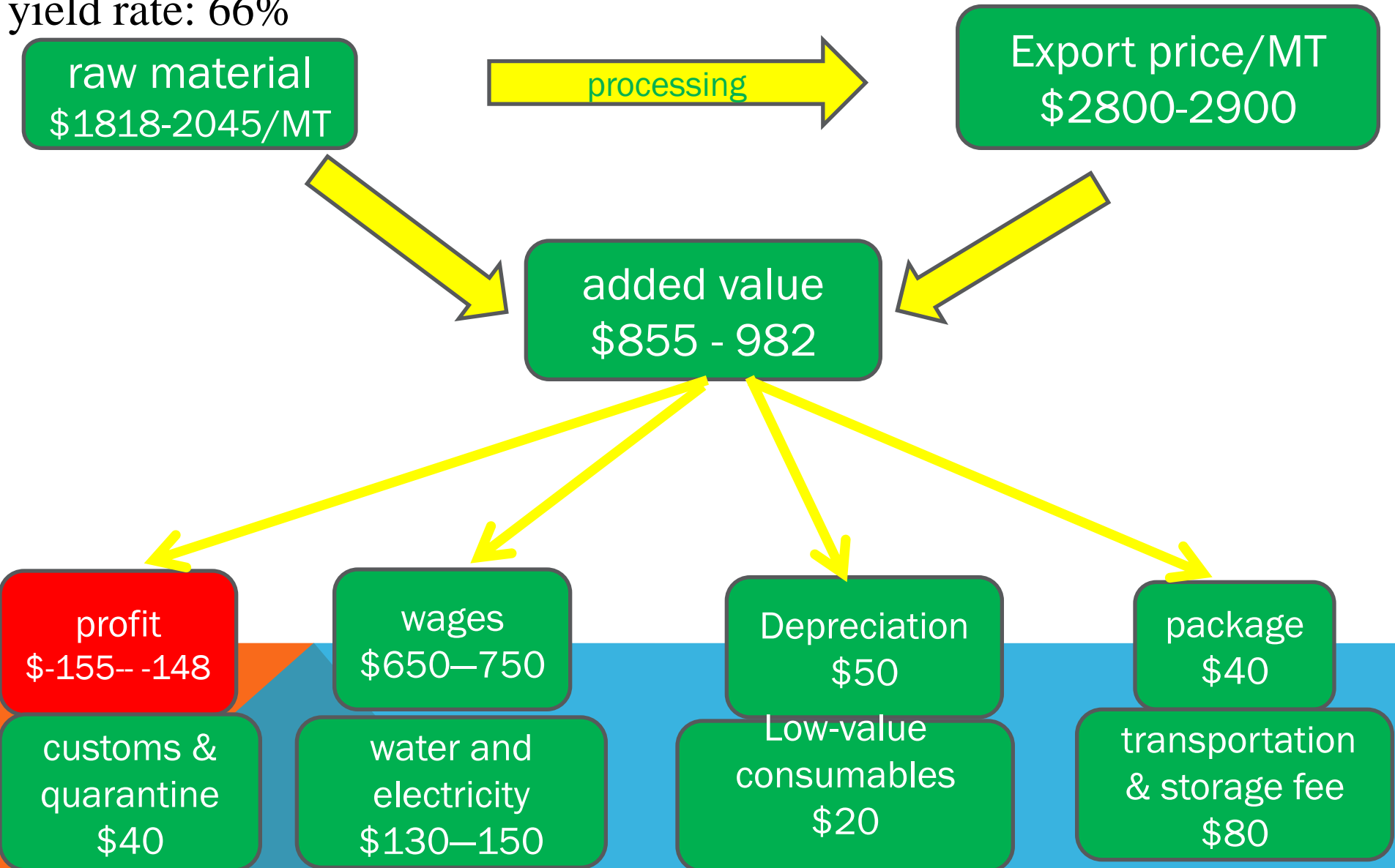
Haddock, yield rate: 66%



3.2 Value Chain

Pollock, 1MT raw material

yield rate: 66%



Thank You !