

## TECHNOLOGY 38

Lower Region-----

1 and a half weeks ago, when Landon first produced the first cannon and gunpowder sample, he had already completed his mission.

He needed tools that would aid in manufacturing cement, so he asked Tim to assign department 4 to the task.

Within the construction Industry, department 4 was in charge of building all equipments or tools needed by other departments or industries. Be it industry tanks, pumps, screwdrivers, or even hammers.....they would do it all.

Landon asked them to create:

- 2 large rotary Kilns:
- 300 shovels
- 40 wheelbarrow's (carriage wheels would be used instead of rubber)
- 30 Iron buckets (since rubber wasnt invented yet)
- 100 hoes and 50 manual spice grinders

But now that he had just got information on how to construct houses, he found that he was lacking a lot more tools.

"Tim, it has been a week and a half, since I asked you to make some tools for me....how many equipments have you made so far?" Landon asked curiously.

"Your highness, with 50 people working on the tools, we already made all the shovels, as they were even easier to make than swords. The Iron buckets, hoes, spice grinders and the wheel barrow's were done as well... But we are only 2/3's done with the kilns".

"Excellent... good job Tim... Have 5 people continue working with the kilns... I just remembered that there are more tools that we would need before the end of the month. I appologise in advance about my negligence on the matter", Landon said sincerely.

The things he needed were too many to be made before the end of the month. there was only 1 week and 4 days left, before the slaves would arrive. This would definitely put pressure on them.

Tim looked at Landon's pained expression and immediately understood what he was thinking about. It was rare for rulers to be this considerate towards their subjects. Tim smiled.

"Your highness... no need to appologise, we would all be honored to do whatever job you request of us. Your only human your highness, it's normal for you to forget sometimes". Tim replied.

"Thank you Tim... But you know, your words make me more guilty... hihihhi..."

Tim smiled and chuckled as well.

"Dont worry your highness we won't hold it against you".

"Alright... I'll bear that in mind.....Here's what I need....blah blah...."

Landon explained and drew diagrams on parchment papers, on how each equipment would look like.

He needed:

- 2 large manual cement mixing machines
- 2 large manual making cement block machines
- 40 Wall screeds
- 40 floor screeds.
- 40 two-man saws
- 40 mini wood scroll saws
- 40 hand Rip saws Hand saws
- 100 Thick wooden measuring rulers and 1000 well cut plank boards of different sizes.
- 1000 nails, 50 door knobs with keys, 100 door hinges 50 paint rollers
- 4000 reinforcing steel bars (rebar) and 200 long steel tying wires (rebar wires) to join the bars together.

"With the exception of the 5 who will work in making the kiln, there are 45 workers available for the task.

The first 4 projects should indeed have 4 people working on them. But for the 5th to 8th projects we will consider them as 1 giant project.

Have 15 people create each saw type. And when they are done, get them to start creating the measuring rulers and the planks.

The 9th project should have 7 workers on it to make: nails, door knobs, hinges and paint brushes

While the other 7 workers should focus on finishing the 10th project." Landon said.

"Your highness, that would mean each worker would have to create 8 screeds in a week and 4 days..... isn't that too little? No offense your highness... but from what you described, these saws would take less time to create than swords.... A normal blacksmith would be able to make 3-4 swords a day my lord... these tools should be done within the next 4 days....What happens when they finish their task early? Do you want them to create more?" Tim asked seriously.

"No... those that finish early, should help out with the other projects... what we need now is enough tools to start the job. Once the slaves arrive, we can assign more people to create more tools."

Tim nodded his head while listening.

As for hammers, the department had always been making them for a long time. So far, Baynard has over 300 hammers within the Construction industry.

When Landon browsed through the knowledge he had acquired, he found out that the foundation of all houses were done with wood, concrete and steel bars.

Steel was used because it could expand and contract in heat and cold, as much as concrete. Which means that it won't crack the concrete that surrounds it.

He also needed to cut down trees and make several planks neatly. If it wasn't done well, the foundation would not be sturdy. That's why he needed them to make saws.

In this era, people used axes to cut their wood. That was a real waste of time, just saw the wood open.

Since there was no electricity, all the tools he made operated manually. The workers should use the 2-man saw to fall the trees.

When trying to get precise wood measurements, they could use the measuring rulers, chalk, wood scroll saws and Rip saws to get the exact wood blocks needed for each part of the house.

He also needed to make sure that the cabinets for the kitchen, bathrooms and so on... were done properly.

In this era, people tied wood together with ropes, instead of using nails... ..That's why he also requested for nails to be made asap.

"Now, that we are done with department 4, let's talk about department 3, the warfare department."

Landon also gave him a detailed understanding and sketch on how the handguns were to be manufactured.

"Also, put all the hoes and spice grinders on a cart, I'll take them over to the food industry".

Landon met chief Wiggins and handed over all the tools to him.

In this era, people used sticks, sharp stones, pickaxes and their hands to dig up the soil.

The hoe was flatter compared to the pickaxes and wasn't as heavy as the pickaxe. Wiggins didn't know how this thing could help them. He looked at the tools in confusion.

Landon decided that it was better to show him how it worked, than explaining its functions. So he decided to head towards the farms.

Once they arrived, Landon gave 10 hoes to random workers and 1 hoe to chief Wiggins, while holding another hoe in his hand. He rolled up his sleeves and turned towards them.

"Let's begin, follow my lead"

Landon held the hoe with both hands and swung frontwards towards the ground. After softening and smoothing the soil, he then started forming beds by digging up the surrounding soil and placing it on top of the area he smoothed.

As everyone followed his movements, they realised how fast and easy, using this tool was. Less than 3 minutes, they had already formed a farm bed.

Normally, it would take 1 person an hour to make a standard size bed. After using a pickaxe, stones or sticks to soften the soil, the farmers would use their hands to form the beds.

Chief Wiggins looked at the tool in his hand and smiled. This was a game-changer for him.

"Once the day is over, you all can return the tools back to your supervisor".

Since the demonstration was over, he went back to the food industry with chief Wiggins. And on their way, Wiggins kept talking about how this tool was godly and so on.

Landon looked at the excited man and chuckled. When Wiggins spoke about farming, he really looked like a kid.

As they rode back, Landon kept thinking about spice making.

Although he wanted to start now, he knew that he couldn't without more people. So he decided to wait for the slaves and pass the time assisting every department.

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As Landon thought about his situation, someone far away was preparing for a stormy night.