**PROJECT MANAGEMENT**

**Learning Outcome 3: ACTIVITY 3**

**GROUP ACTIVITY**

**Hurricane hospital project**

A series of hurricanes have caused a severe humanitarian crisis on a tropical island. The regional hospital has suffered irreparable damage from flooding – and the local population were suddenly deprived of medical care. Road communications were very badly disrupted.

The island requested emergency assistance from the UK. A Royal Navy support vessel was in the area at the time and was anchored close to the island. The USA also agreed to divert one of its aircraft carriers to the area.

Harry Handy, a Captain in the Royal Engineers onboard the support vessel, was put in charge of the hospital reconstruction project and lost no time visiting the site and conferring with the hospital manager. It soon became clear to everyone that the only way to proceed was to clear the site and rebuild the entire hospital.

Handy realised that the project would require far more manpower, materials and construction equipment than was available on his ship, and he made plans to request all the required resources from the nearest British naval base. After a detailed site survey he drew up an initial plan for the project (Table 1) and sent this to Naval HQ for approval.

Table 1 – Handy’s Project Plan

|  |  |  |  |
| --- | --- | --- | --- |
| Task | Description | Duration  (days) | Predecessor |
| A | Site Clearance | 8 | - |
| B | Foundations and drainage | 10 | A |
| C | Operating theatres | 20 | B |
| D | Inpatient wards | 36 | C |
| E | Outpatient surgeries | 28 | D |
| F | Offices and Laboratories | 20 | E |
| G | Parking and roads | 16 | F |
| H | Hospital operational | 2 | G |

All the durations are in working days so 5 days = 1 week.

Fixed costs were estimated to be $440,000 for the materials and $18,000 per week for every week that the project was in progress.

Support arrives from the USA

The following morning the site was disturbed by a large helicopter from the US aircraft carrier. It landed close to the site, a rear ramp opened and a jeep emerged, driven by an American civilian. He introduced himself to Handy as Bob Lee Ruger, a construction project manager attached to the US Navy.

“Need any help?” he enquired. “Let me take a look at your project plan.” A few minutes later, Ruger laughed. “This plan isn’t going to work – it’ll take months. There are 100,000 people around here who need a proper hospital as soon as possible.”

Handy explained the problems with limited resources but Ruger was not impressed. “Let us meet again tomorrow morning, Harry.” And with that he climbed into his jeep and set off for the main town on the island.

The following morning Ruger walked into Handy’s temporary office, accompanied by a local businessman whom he introduced as Mr Gonzalez.

“Eight weeks, Harry”, he announced. “The new hospital up and running in no more than eight weeks with no compromise on build quality.”

“Impossible!” exclaimed Harry. “It will take us three weeks just to get the resources on site.”

“Not impossible, Harry – listen up!,” retorted Ruger.

Ruger’s Three Tactics

Ruger outlined his alternative approach to the project by stating:

“**Firstly**, why wait for manpower and materials when they are available locally? Mr Gonzalez here can arrange both for a very reasonable price. He knows everyone in town. Locally-supplied building materials will cost half of what you estimated.”

**Secondly**, if you mobilise a hard-working team and put them on 12 hour shifts you can cut all the estimated durations from your plan (Table 1) in half. OK, I agree they will still cost us a little more - $20,000 per week.’

**Thirdly**, why wait for one task to finish before starting another? Once Site Clearance (Task A) and Foundations and Drainage (Task B) are done in sequence you can then run tasks C, D, E and F in parallel. When C, D, E and F have all finished, then G can start and when G is finished, H can take place.

This is how to get things done and save money at the same time.”

**Questions/tasks**

1. Construct a network diagram, based ONLY on the information in Table 1 – Handy’s Project Plan. Find the critical path and planned project duration and check with the rest of the learners in your group.
2. Using the results from Task 1 calculate the budget cost that Handy was expecting the project to cost (fixed costs of $440,000 and $18,000 for every week that the project was in progress). Check your answer with the tutor.
3. Now take into account Ruger’s SECOND and THIRD suggestions. Construct a NEW network diagram, using this information. Find the critical path and planned project duration. Check your answer with the tutor.
4. Using the results from Task 3 calculate the budget cost that Ruger was expecting the project to cost (fixed costs of $220,000 and $20,000 for every week that the project was in progress). Check your answer with the tutor.