Preparing for a Dinosaur Excavation (from Project Exploration)

Topics:

1. Extensive planning needed for a successful expedition
2. Problems that must be solved before departure
3. Planning for unknown circumstances

Panel Summary:

A successful expedition to a foreign land requires an enormous amount of advance planning. Many expeditions take place in remote areas far from running water, electricity, telephones, or hospitals.

The location of the fieldwork and the size of the team are important factors that govern the selection and quantity of supplies and equipment. Vehicles, food, camping equipment, and medical supplies are just a few of the things that need to be chosen carefully.

You must plan thoroughly because you probably will not be able to acquire equipment or additional supplies once you are in the field. On the other hand, you can bring only essentials, because the trucks can carry only a limited amount of weight.

Expedition Preparation

How are you going to get more than a dozen people across the Sahara Desert and back? What if one of the vehicles breaks down? What will the team eat? How much will they eat? Where will the team sleep? What if someone gets hurt? When planning an expedition, these are just some of the questions you need to answer.

Vehicles
The team needs lightweight, maneuverable vehicles to transport people and supplies across the desert and to search for fossils in rocky or sandy terrain. A single large truck would be too slow and would not allow team members to conduct field operations in several places simultaneously. The team outfitted five Land Rover trucks. Each vehicle has seats for four passengers, storage space for food and gear, a roof rack for carrying additional equipment, two spare tires, a box of spare parts, and two dozen 20-liter containers (called "jerry cans") for fuel and water.

Food
Consider the following: **If 15 people ate 5 lbs. of food each day (they would be working hard) for 90 days, the total weight of food consumed would be 6750 pounds!** This weight, added to that of equipment and supplies, would have exceeded

the carrying capacity of the vehicles. By taking dehydrated food, the team was able to cut total food weight down to 2500 pounds.

Fresh meat and vegetables are hard to find in the desert. The team uses pasta and rice as a food base with sauces and stews made from dried meat, dried vegetables, soup mixes, tomato powder and lots of spices. They even bring dessert into the desert- freeze-dried ice cream bars! Granola with powdered milk and instant oatmeal with dried fruit makes for a healthy breakfast. For lunch the teams eats leftovers from the previous night.

Camping Equipment
Each team member has his or her own tent, sleeping bag, and cot for the journey across the desert. Personal gear also consists of a small flashlight, pocketknife, hat, sunglasses, backpack, and canteen. The team packs large tents for work at the field site- one to store field equipment, one for study and work on fossils, and one that will function as the kitchen. Cooking takes place on gas stoves because electricity is not available. Camp lights run on electricity from car batteries that were recharged during the day in the vehicles.

Medical Supplies
Vehicle accidents and injuries from tools are the two most common emergencies in the field. Because most of the expedition will be spent more than 100 miles away from the nearest hospital, a fully equipped first-aid kit is kept on hand. It includes cream and lotions for sun exposure, pills for common ailments, antibiotics for infection, and a complete set of bandages. The medical kit even includes equipment for blood transfusions and a list of the blood type of each member. If there was a serious emergency, the team knows who has compatible blood types.

Bringing the Essentials:

Background
The team packs everything they will need during the **four-month expedition into six Land Rover trucks**- food, clothing, camping and cooking equipment, and all geological gear. We cannot leave anything important behind.

We realize that the carrying capacity of the trucks (maximum weight that each could carry) is the most important factor in deciding how much we are able to bring. We also realize there is only one way to bring enough food for the whole team for our four-month stay in the desert: we must pack dehydrated (dried) food. Water is quite heavy- a gallon weighs almost nine pounds. Dehydrated food has had all the water removed from it. As a result, the food we bring is much lighter than the meat or fruit in a grocery store. We can rehydrate (add water to) the food in the desert just before we need it.

It is a lot of work to figure out exactly what to bring and where to pack it in the trucks. And, we can’t forget to set aside room for the team members!