

## **HUMAN PLANET FILMING TECHNIQUES STORIES FROM BEHIND THE SCENES**



**Making a landmark high definition series like “Human Planet” is probably the most demanding technically of any genre in television programme making. Everyone expects the footage to be incredible, with the kind of cinematic standards you’d expect to see in BBC Dramas or even in feature films. Dramas and films are shot in extremely controlled conditions with big production teams and actors. Our small hardy crews took hi-tech kit and cameras into some of the most hostile and remote locations on earth. Kit regularly broke down and even when it all worked perfectly we had to rely on ordinary people, animals and the weather to come together and do the right things at the right time. Even with the best planning things went wrong. The UK isn’t the only country that has unreliable weather and wild animals never read the scripts! So if you want to find out more about how we filmed this amazing series carry on reading.**

**CONTENTS**

<b>1 FILMING TECHNIQUES.....</b>	<b>3</b>
1.1 THE CHALLENGE OF HIGH DEFINAITION DOCUMENTARY FILM MAKING.....	3
<b>2 CAMERAS.....</b>	<b>4</b>
<b>3 AERIAL FILMING.....</b>	<b>5</b>
<b>4 CABLE DOLLIES.....</b>	<b>6</b>
<b>5 CRANES.....</b>	<b>7</b>
<b>6 CGI PHOTO REAL GRAPHICS.....</b>	<b>7</b>
<b>7 ARCHIVE.....</b>	<b>7</b>
<b>8 FILMING TECHNIQUES .....</b>	<b>8</b>
8.1 HUMANS.....	8
8.2 ANIMALS.....	8
<b>9 MUSIC AND SOUND.....</b>	<b>9</b>
9.1 ON LOCATION.....	9
9.2 IN THE STUDIO.....	10

## **1. FILMING TECHNIQUES**

Filmed in High Definition this series brings you epic and intimate human stories shot in a way you may have never seen before. We used a wide range of innovative filming techniques to give the viewer a ring-side seat during the most incredible moments of people's lives.

### **1.1. The Challenge of High Definition Documentary Filming**

Filming in HD is an incredible challenge for documentary programme makers. The superb picture quality of HD demands means that finding perfect focus is critical to the camera operators. This can be very difficult especially in low light and when you need to shoot at a distance. The camera operators often have to film using black and white viewfinders.

We don't get to see the footage in full HD quality until late on in the final post production process. In our colour grades (we used a system called Baselight) and in our on-line edits we have to go through every shot with a fine tooth comb, making sure we bring out the best colour from the pictures and looking for any technical glitches and repairing them along the way if necessary.

It's worth the effort. What we end up with is truly magnificent. The lush locations and incredible people seem to jump off the screen, almost like 3D, helping to transport you to these extraordinary places.

## 2. CAMERAS



This series started being made at a very interesting period of transition for the location HD television cameras. Professional video cameras are moving from tape formats to tapeless formats. Similar to the revolution in stills photography. It was only very recently that the Natural History Unit stopped making landmark documentaries on old fashioned film. Ironically film cameras are so technically simple that they actually work very well in extreme environments.

The main work horses on “Human Planet” were the Panasonic Varicams, tried and tested tape cameras which allow us to film off-speed. This gives us the fabulous slo-mo footage that is synonymous with the Natural History Unit landmark style, used to film animals for many years. It’s a technique that looks equally incredible on the human species.

We also used a range of smaller cameras including the Sony A1 which is tapeless, the footage goes on to a disc. The quality is still HD, sometimes these smaller cameras are essential when you want to get up close and personal.

At the other end of the spectrum we used the Red camera, which is a state – of- the- art tapeless camera, with a phenomenally high resolution. This camera is still the new kid on the HD documentary block.

For super slo-mo photography we used the very specialized Phantom camera, this beast can shoot up to 1500 frames per second. We used it to film the incredible Suri stick fight in the Grasslands episode.

Mini cams – we used a range of mini cameras to get into the most difficult or dangerous places. We trained a golden eagle to fly with a mini cam strapped to its back in our Mountains episode. We used Pole Cam – a small camera attached to a long pole in many Human Planet episodes.

### 3. AERIAL FILMING



Most of our aerial filming took place in helicopters using a stabilized camera system called the Cineflex, this sophisticated kit takes the best part of a day just to rig onto the helicopter. It has a phenomenal zoom capability allowing us to get incredibly stable, high quality shots even from a long distance away. This was used to extremely good effect in the Jungles programme. In Brazil we joined the government monitoring organisation to fly over an “uncontacted tribe” living in the Amazon, the camera allowed us to keep our distance.

In Niger we weren’t able to get a helicopter into the Sahara to film the Tubu women on their huge desert trek. So here we used an incredible system call the Cinebulle. This rather low tech system is essentially a powered hot air balloon with a camera mount and seat for our cameraman beneath it! It needs perfect wind conditions to work well but when everything comes together the results are glorious as you will see in the Desert episode.

#### 4. CABLE DOLLIES



These incredible rigs allow our cameras to move smoothly in straight lines, often very close to objects. They can take hours and often days to rig for one shot but the results are astonishing. The remote electronic system allows the camera to remotely pan, tilt and zoom. One of the best examples of a horizontal cable dolly move comes our Rivers episode in Laos; here the camera follows a fisherman who walks on a high wire across raging rapids. Vertical cable dollies are slightly more unusual, one of the most iconic shots in the series comes in our Jungles programme. Here the cable dolly was used to track up the trunk of a massive tree, perfectly timed to find our character half way up, climbing up with just an axe and a liana vine to support him!

## 5. CRANES



We regularly carried cranes of all shapes in sizes into some of the most remote locations imaginable. Cranes are basically long metal arms, usually used to smoothly sweep over subjects and can be seen in most of our stories. One of the best examples is seen in our Deserts episode; here we set up a huge crane to follow the thousands of men in Mali as they all run into a lake at the same time in a mass annual fishing festival.

## 6. CGI PHOTO REAL GRAPHICS

The CGI photo real graphics were produced by our talented graphics team at BBC Wales in Cardiff. Photo real graphics now use incredibly high resolution photographic satellite imagery to produce images that would be impossible or not cost effective to capture with normal cameras. In the Deserts film it allows you to see what a huge sand storm would look like from space, or in the Rivers episode the viewer can watch the Amazon flood within a few seconds.

## 7. USING ARCHIVE

Occasionally we use material that has been filmed by previous BBC programmes. Wide establishing shoots and general wildlife footage are the type of shots most often taken from the extensive Natural History Library. Archive is only used when it works in the editorial and visual context of the story. This pooling of resources is really cost effective for the license payer so it means we can spend more money and time getting the key footage that is unique or different.

## 8. FILMING TECHNIQUES

### 8.1 Filming techniques – Humans



On Human Planet it was always very important to try and capture the key human action for real or 'in the moment'. But to get the shots required especially in a landmark production like this one, it wasn't always possible. We also needed to get lots of different shots from many different angles to make up each exciting sequence. In many sequences we filmed "action" that was naturally repeated which made capturing footage much easier. In other cases we had to get our characters to repeat "action" for camera so we could get the range of shots we needed. In some stories where it was impossible to repeat action we had to take a number of cameras on to location, which is rarely the most cost effective option. The Mali Fishing festival is a great example, it only happens for once a year for 15 minutes, we had to use a multi-camera set up for this one!

### 8.2 Filming techniques - Animals

Although Human Planet is about our relationship with nature we needed to do far less pure natural history filming than in previous landmark series. However we still used a range of traditional techniques including the use of long lenses, hides and bags of patience. As with all natural history programmes we very occasionally needed to film animals in controlled environments to get the big close ups necessary to build a sequence.

For instance when we filmed the sequence of children hunting Goliath tarantulas in Venezuela for the Jungles programme we filmed a few of the shots in a studio. We really wanted to show the viewers the formidable size and appearance of these spiders. We managed to get more or less everything we needed in the field, but couldn't get the 'big close ups' in such

an uncontrolled situation. We didn't want to stress out these wild spiders by getting too close or handling them. They also kick out tiny irritating 'urticating' hairs to defend themselves which cause inflammation to the skin, eyes and lungs. Finally, there is very little light in the jungle which makes it very difficult to get your close up shots in focus. So on this occasion our best option was to film with tame Goliath tarantulas in the UK.

**9. MUSIC AND SOUND**



**9.1 On Location**

Because we filmed interviews with all our characters, we took sound recording equipment on every Human Planet location. However in the dub we regularly add sounds that were missed on location. It is virtually impossible to record all sounds we need. Animals sounds can be particularly difficult as they are often filmed from far away. We have an extraordinary sound archive at the Natural History Unit and in BBC Wales, Cardiff. So once we used these resources to enhance the experience for the viewers particularly those listening in the full 5:1 surround sound.

## 9.2 In the Studio



The music, by Nitin Sawhney was written to the pictures and recorded by the National Orchestral of Wales in Cardiff. A number of soloists and vocalists were recorded separately in Nitin's London studio. The music is then mixed by Nitin's team before being mixed in to the programme. This is where we make the final decisions about the balance between the music, effects and the narrator's voice. This is always a difficult call as people have very different tastes and very different sound systems in their televisions! We made sure that John Hurt's voice could be clearly heard, without losing the impact and drama of the music and effects.