BASIC IMAGE EDITING – an Introduction

1. **Digital Photography**

Digital photographs, as opposed to photographs taken on film, are an essential part of online communication. Because they are already captured and stored on a digital medium, they present several advantages:

1. They are easily transferred and/or copied, even over long distances
2. They can be manipulated and modified, with a minimum of equipment
3. They can be stored for a long time without degradation
4. Outside initial equipment costs, they are free to create and use

Due to miniaturization, digital cameras or camera functions are also increasingly seen paired with other devices, such as: web cameras or laptop cameras, camcorders, cellphones, PDAs, etc.
Digital photographs taken with these devices can also be transferred in a number of ways:

1. Through wires/cables – USB, video cables, Firewire
2. Through networks or the Web – LAN, e-mail, FTP
3. Through portable media – SD cards, Memory cards, CD-Rs, DVD-Rs, Floppy disks, Pendrives
4. Wirelessly – Bluetooth, Infrared, Wireless LAN, between cellphones (MMS)

With all these options, it can be a challenge to sort out what method is best suited to online communication. In this workshop we will attempt to cover some of the basics of Image Editing.

2**. What is a digital photograph?**

A digital photograph is essentially a grid of very small, closely-spaced coloured dots called pixels. The number of these pixels will essentially determine the size and quality of the picture. There are 3 main things to consider:

1. Resolution: the resolution of a photograph is a count of how many pixels are represented within a given space. A higher resolution means a bigger file size as more information needs to be stored, but also a crisper pictures.

2. Bit Depth: a measure of how many different colours each pixel can represent. A higher bit depth means more colours, and thus more realistic pictures.

3. Compression: the method by which these pixels are organized and stored, so as to take as little room on the storage medium as possible while preserving image quality at the same time. (for more details, see below: Image Formats) *analogy: like packing luggage. If you throw many clothes in one bag any which way, they may not all fit. This is equivalent to an uncompressed photograph, which may be too large to 'fit' on the web. On the other hand, if you folded your clothes neatly and arranged them in the most efficient way possible, you can get many more clothes in the same bag. Think of your clothes as the image, and the way you fold and arrange them as the compression scheme.*

3. **How to take better photographs**

There is one way to edit images that is more effective and time-saving than all the others: edit in camera! What does this mean? It means, you should try as much as possible to take good pictures from the beginning. Not only will there be less fixing and editing to do, your pictures will look better.

Analogy: to make the perfect pulao rice you need good ingredients to start with. If you start with substandard ingredients, no matter how good a cook you are, the end result will never be as good.

Here are some guidelines for taking better photographs:
(You can also refer to the Kodak guide, Top 10 Tips for Great Pictures, found on your CD).

1. Pick a subject – don't just shoot anything and everything. Have a subject in mind before you press the shutter. It can be anything – a flower, a person, an event, an action – but a photo with a clear subject will be able to stand on its own. Also, make sure your camera's focus setting agrees on the subject you choose! A camera set on autofocus may decide the background is the subject rather than the foreground, or vice-versa.

2. Frame and shoot – Be aware of your surroundings and in particular what is in the shot and what is outside. Is there a laundry line crossing through? Is everyone in the shot? Is the shot level to the ground? Are there unnecessary objects sticking into the frame? Are there trees or telephone poles behind your subject's head?

3. Watch the light – Light is what makes a photo beautiful, but it can also ruin a photo if it's not properly managed. When you are preparing to take a shot outside, always consider the position of the sun. If you are standing between the sun and your subject, your shadow may enter the frame. If the sun is behind your subjects, haloes, silhouetting or overexposure may occur.
Similarly, when shooting inside, always make sure there is enough light to properly illuminate the photograph. Shooting a subject against a window should be avoided as it will confuse the camera's light meter, which cannot always tell whether it is inside or outside. This may result in your subject appearing too dark.

4. Move in close – Except in cases where you want a wide (i.e. zoomed-out) shot to capture a large scene, in order to establish a setting for example, try to get closer to your subject. Keep in mind that the photograph will probably be reduced in size for the Web and that details that are small in the frame will be hard to discern.

5. Be organized – when taking photographs for a particular purpose, to document one of your NGO's projects, for example, it can be helpful to get an idea beforehand what types of shots are needed. You don't want to come back to the office and find you've forgotten to take a picture of something essential to the story. Be prepared, too – make sure your batteries are charged, that you have enough space on your memory card, and that you're familiar with the camera's operation before setting out on a shooting expedition.

4. Image Formats

(for more information, consult the Wikipedia guide to image formats, on your CD)

There are 3 main formats in use on the web:

GIF: GIF stands for Graphics Interchange Format. A .gif image is limited to 256 colours. For this reason, they are more suitable for simple graphics with few colours like diagrams, logos, and cartoon-style images or animations. It is ineffective for detailed images.

PNG: PNG, or Portable Network Graphics format, is the open-source successor to GIF. PNG is a lossless format, which means that picture quality is not sacrificed during compression.

JPEG: JPEG, which stands for Joint Photographic Experts Group, is the most common format for images on the Web. An image saved as a .jpeg will produce a relatively small file size, although there will be some degradation in image quality the smaller the file becomes.