coffee & climate
enabling effective response

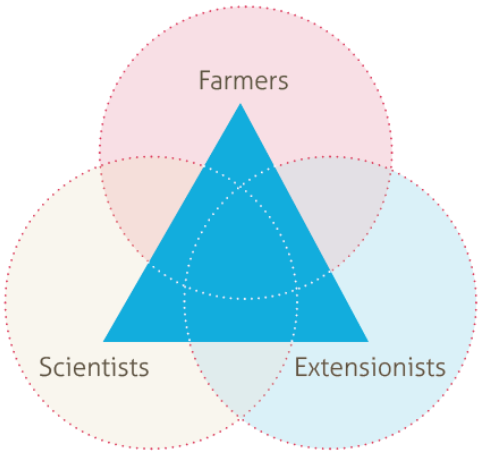
Triangulation Protocol

PS Baker May 2012

Introduction
How much is climate change affecting coffee farmers? What aspects of the weather/climate are likely to be causing problems? We need to know this because it will determine strategy and tactics for advising farmers on adaptation.

In most cases, detailed studies are not a realistic option because of time and funding constraints. We therefore need to collect and synthesise available data from a range of sources. This ranges from opinions and experiences of farmers and extensionists, to direct field observations, to an appreciation of the current state of scientific knowledge.

We call this process *triangulation* because we are looking for agreement between three major sources: farmers, local experts and scientific data. If we achieve a level of alignment between these three sources, then we have enough confidence to develop a preliminary adaptation strategy for coffee farmers.



Such conclusions are always tentative and conditional. They may be modified when more data becomes available.

Methodology
Farmers are the primary source of information; no one knows local conditions better than they do. We therefore need to determine to what extent weather patterns are causing them difficulties. To this end we have developed a brief questionnaire (available separately) that aims to categorize their present production difficulties. The extent to which climate is given prominence in farmers' responses gives us an indication of the level of their concern.

Output: filled-in questionnaire forms and brief synthesis report.

Local experts – most often extensionists, but also traders and other stakeholders have a great deal of local knowledge and experience. Direct interviews with them, to elicit views about farmers' recent and present difficulties, provide often a rich source of information. The procedures used range from informal one-to-one discussions, to more formal meeting sessions where standard techniques such as zopping and ranking can be carried out.

Output: meeting report, highlighting chief weather/climate concerns, compared to other production difficulties.

Scientific knowledge – this ranges from available meteorological data and analysis, to climate change mapping of likely future changes, the latter based on general circulation models and downscaling. The available data is reviewed by an expert who should make some preliminary conclusions on how the climate in the zone of interest has changed in recent years and how it may change in the short to medium term. Often some additional analysis may be required to look for trends of particular interest to coffee farming, e.g. rainfall levels at key times of the year, maximum temperatures, length of dry season and so on.

Output: expert appraisal document on climate trends for the zone of interest.

Synthesis
Information from these three sources is then analysed by an expert, looking for points of agreement and disparity. Where all three sources agree, e.g. drought due to declining rainfall, this provides the basis of a working hypothesis that supports future practical adaptation strategies that can be tried out with farmers, as well as experimental trials, e.g. on a field station or through a farmer field school approach. Where there is no general agreement on climate trends, further studies are required.

Note: conclusions from this methodology should always be regarded as preliminary and should be regularly reviewed and updated as new information becomes available.

Output: synthesis document that compares and contrasts information from the three primary sources.