It is recognized that adequately educated human potential in water resources is one essential ingredient for sustainable economic development. This means that the education sector in developing countries is expected to progress in line with the socio-economic progress that is foreseen in national policies and strategies. In many cases, the university education in hydrology and water resources in such countries attempts to follow a scientific education model common in developed countries. Is this approach correct, or should a more practical education be adopted that is based on national needs immediately related to the economic growth ambitions? This contribution seeks to identify characteristics of hydrological education within the context of socio-economic development. It also considers the circumstances related to the viability and sustainability of hydrological science education programmes in developing countries.