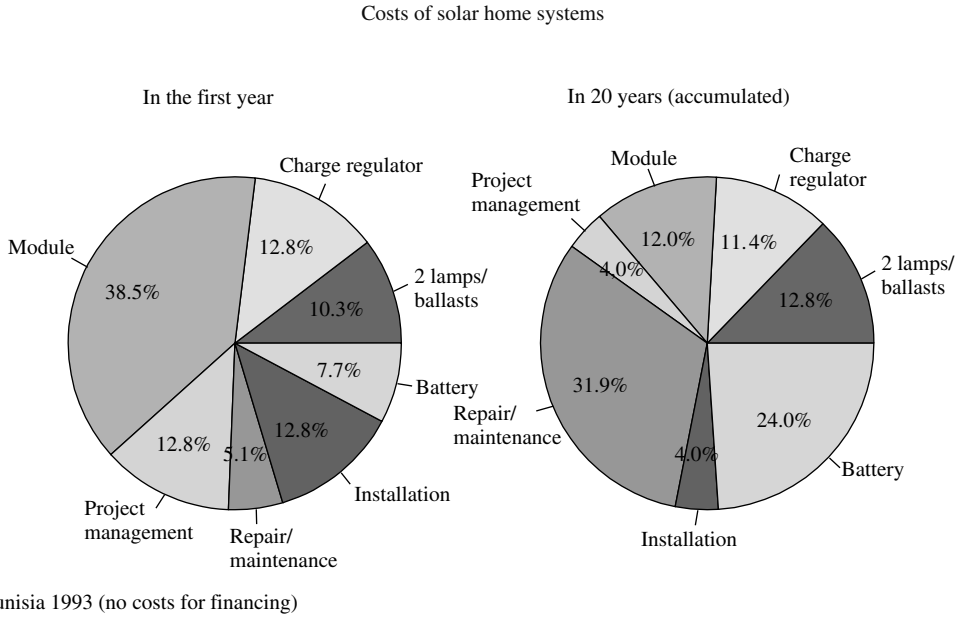

Figure 17.19 Cost breakdown for Solar Home Systems [7]: (a) year of installation; (b) cumulative costs after 20 years of lifetime

of system components (BOS), that is, battery, charge controller, installation material and the electric appliances.

To achieve highly reliable systems, recommendations for the quality improvement of Solar Home Systems and their components have been prepared in different institutions together with industry partners worldwide and are currently being introduced and implemented in national and international standardisation committees. The guarantee of high-quality standards is seen as the main necessity to bring in financing agencies and companies. Up to now, the risk that is due to the uncertainty about the durability and the handling of PV systems can be identified as one of the main barriers for bank, insurance companies, private fee for service providers, governments and last but not the least, for the users of the systems for becoming involved in this new technology.

The main components of small PV-systems are the PV module, the storage battery, the charge controller, if necessary a DC/AC inverter, the appliances (lamps, radio, TV sets, refrigerators, fans etc.) and the installation material (safety boxes, cables, plugs, sockets etc.). While today and at least in the near future, the PV module will be imported from industrialised countries – in some developing countries the module assembly has already started – all the other components are suited for local production. Of course, these components have to fulfil the high-quality standards as well, which are needed for all components in a PV-system. This is the reason in today's larger PV programmes for rural electrification often components from industrialised countries are used.

However, there are several reasons for the assumption that in the near future – and in reality this development has already started in many countries – good quality