Setting up a network of agrometeorological stations in East Timor

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ABSTRACT

A developed and sustainable agriculture requires a permanent and reliable monitoring of climatic/ meteorological elements in (agro) meteorological stations which should be located close to agricultural, silvicultural or pastoral activities. An adequate network of meteorological stations is then a necessary condition to support innovation and development in any country. Developing countries, mainly those with a history of frequent conflicts, presents deficient number of weather stations, often poorly composed and improperly distributed within their territories, and without a regular operation that allows continuity of records for a sufficiently long period of time. The objective of this work was to build a network of meteorological and agro-meteorological stations in East Timor. To achieve this goal, the number and location of pre-existing stations, their structure and composition (number and type of sensors, communication system,…), the administrative division of the country and the available agro-ecological zoning, the agricultural and forestry practices in the country, the existing centres for the agricultural research and the history of the weathers records were taken into account. Several troubles were found (some of the automatic stations were assembled incorrectly, others stations duplicated information regarding the same agricultural area, vast areas with relevant agro-ecological representativeness were not monitored …). It was proposed the elimination of 11 existing stations, the relocation of 7 new stations in places not covered until then, the automation of 3 manual meteorological stations. Two networks were then purposed, a major with 15 agro-meteorological stations (all automatized) and one other secondary composed by 32 weather stations (only two were manual). The set of the 47 stations corresponded to a density of 329 km_2/station. The flexibility in the composition of each of the networks was safeguarded and intends to respond effectively to any substantive change in the conditions in a country in constant change. It was also discussed the national coverage by these networks under a “management concept for weather stations”.

Key words: Network; agrometeorological station; set up; East Timor.

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