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ECHO/ISDR good practices for resilient communities

Weather assistance and desert locust

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Abstract :

By its nature of voracious insect, consuming its own weight per day, travelling in swarm of an average density of 500 000 individuals per hectare, quickly multiplying from 3 to 4 generations per year, the locusts are one of largest plague for agriculture generating famine of the rural populations and their exodus towards the urban cities. This natural disaster has a rather heavy economic impact on the economy of the country. The Kingdom of Morocco lived this last century 5 great invasions, each one lasted from 2 to 10 years. The two last campaigns cost to the State budget more than 140 millions Euros. An optimization of the means available for operational use will be a great priority for the Moroccan State. Therefore the weather assistance to desert locust seems to be a principal axis for the success of an optimized and rational locust fight. Indeed the observed precipitations during the year 2003-2004, on the Moroccan southern provinces could identify early favourable zones of the reproduction of the locusts and possible invasions. The temperature plays an important role on the embryonic and larval development and indicates also the probable threshold of the locust flight, finally aerologic and synoptic data are useful to define the migratory ways and invasion of the locusts.

Moreover, during the operational treatment of the infested zones, the service of meteorology assists in real time the aircrafts in low level layer data taking into account of the topography complexity of the country. Thus the DMN set up with all the partnership and organizations a directing diagram of locust fight where weather component comprises a cell on the level of the Central Headquarters, a cell on the level of the National Weather forecast centre and a branch of follow-up and assistance in all the meteorological network. Grace to this assistance, the personnel working in the locust fight cell has a panoply of weather information in the forms of bulletins observed and forecast, thanks to the model AL-BACHIR, model of numerical limited area forecast for its outputs fields used as bases to the development of this assistance. Forecaster multidisciplinary training and reinforcement of the telecommunication and the observed meteorological network are imperative to improve the assistance to desert locust fight.