

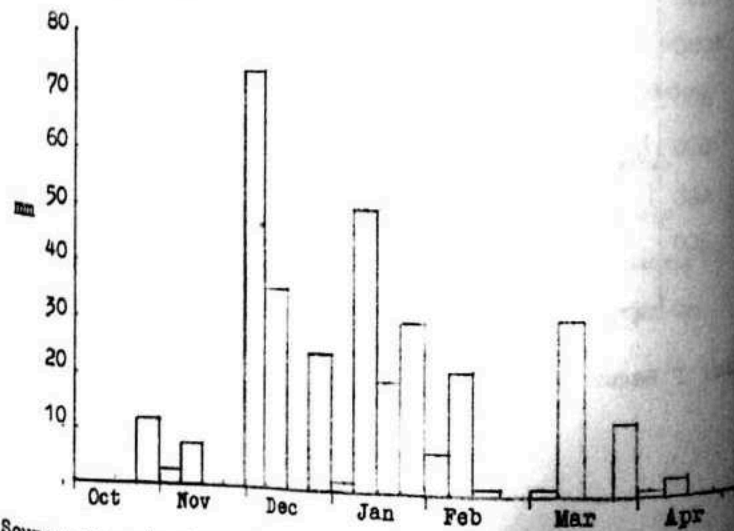
Violent seasonal fluctuations in rainfall entail a large degree of variability in yields of rainfed crops and induce a high margin of risk. This is, in fact, one of the key factors involved in "alternate bearing" of olives, which is a major problem facing West Bank agriculture. Besides, the incidence of drought has a drastic influence on grain crops, natural pastures, and livestock flocks.

Another feature of rainfall distribution is its marked fluctuation within the same season. While the bulk of rain usually falls in mid-season (January and February), there could be considerable irregularity in the pattern of rainfall (see Chart II-2). Again, this adds much to the hazards of rainfed farming, particularly when early rains are sometimes succeeded by prolonged intervals of dryness, which may result in serious losses to crops sown early in the season, following heavy initial showers.

Chart (II-2)

Amount of weekly precipitation (mm)

Tulkarm (1978-79)



Source: Records of Khadourie Agricultural Institute, Tulkarm.

A third detrimental aspect of rain is the intensity of its fall. As typical of semi-equatorial regions, rain may sometimes fall in torrential storms over short periods of time. Table (II-3) shows the incidence of days during the rainy season when more than 30 mm of rain falls in 24 hours. It is not unknown to have rainy days with more than 100 mm of precipitation.

Table (II - 3)

Number of days in which precipitation exceeds 30 mm  
(Tulkarm, 1976 - 80)

	<u>30-50 mm</u>	<u>50-100 mm</u>	<u>over 100 mm</u>
1976	1	1	1 (135 mm)
1977	7	2	-
1978	2	-	-
1979	3	2	1 (118 mm)
1980	2	-	-

Source: Records of Khadourie Agricultural Institute, Tulkarm.

The damage inflicted by torrential rain on agriculture is enormous and it adds further to the risks undertaken by farmers on dry land. Besides sweeping trees and crops away, and destroying valuable stone walls, stormy rain also causes considerable erosion of the surface soil which may be only a few inches deep. Erosion is further aggravated by the relatively steep slope of most West Bank hills, which results in putting extensive areas out of production.

Another salient result of occasional torrential rain is the loss of most precipitation in run-off accumulating in ephemeral wadis. Instead of being stored in surface reservoirs, water flows mostly westward into Israel.