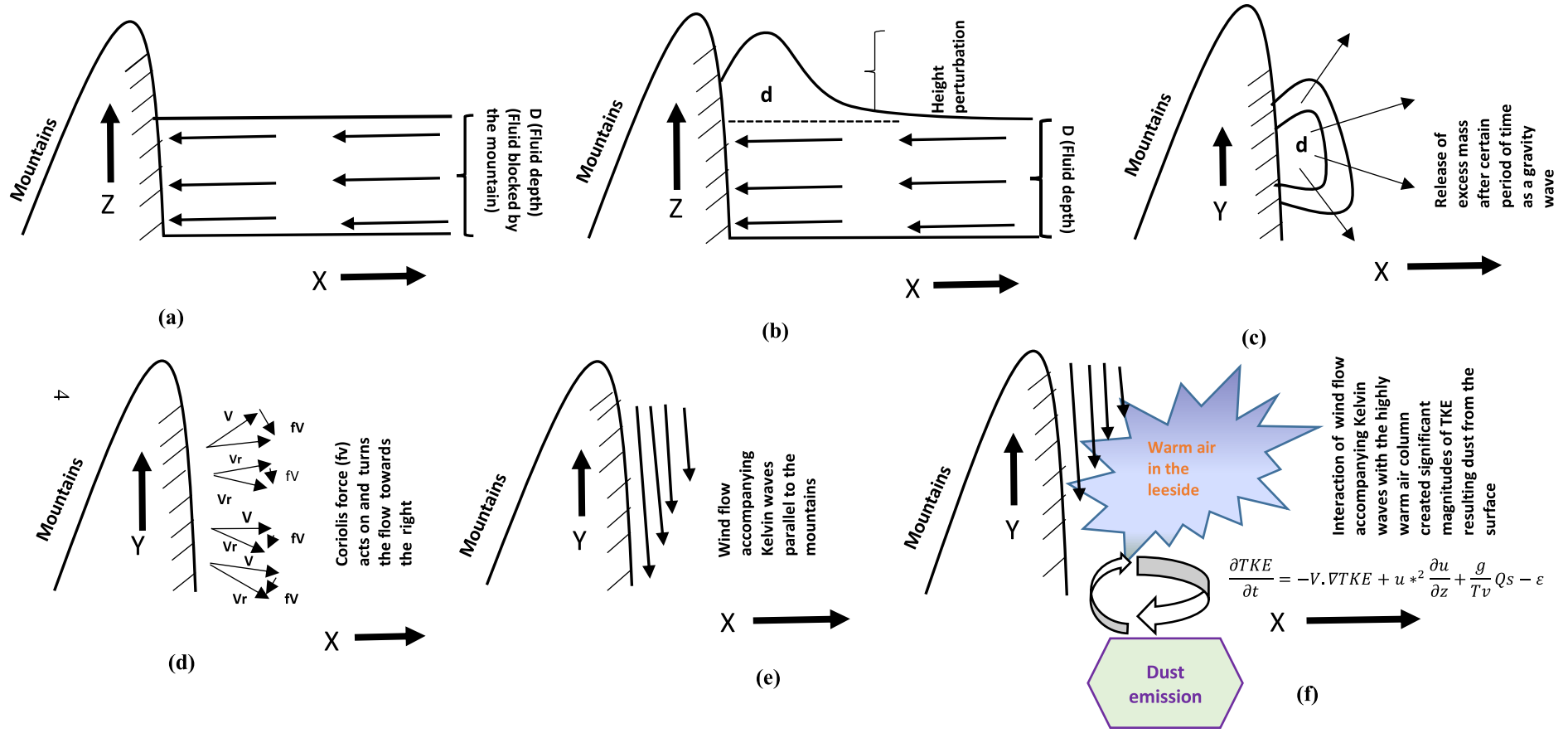
Mountains
Z
X
D (Fluid depth)
(Fluid blocked by
the mountain)
(a)
Mountains
Z
X
d
Height
perturbation
D (Fluid depth)
(b)
Mountains
Y
X
d
Release of
excess mass
after certain
period of time
as a gravity
wave
(c)
4
Mountains
Y
X
V
fV
Vr
fV
Vr
V
fV
Vr
V
Vr
fV
Coriolis force (fv)
acts on and turns
the flow towards
the right
(d)
Mountains
Y
X
Wind flow
accompanying
Kelvin waves
parallel to the
mountains
(e)
Mountains
Y
X
Warm air
in the
leeside
Dust
emission
Interaction of wind flow
accompanying Kelvin
waves with the highly
warm air column
created significant
magnitudes of TKE
resulting dust from the
surface
$\frac{\partial TKE}{\partial t} = -V.\nabla TKE + u*^2 \frac{\partial u}{\partial z} + \frac{g}{Tv} Qs - \varepsilon$
(f)