After reviewing the manuscript entitled "*Landslide susceptibility mapping by using GIS along the China Pakistan Economic Corridor (Karakoram Highway) Pakistan*", following things were observed.

Authors performed landslide susceptibility analysis by applying analytical hierarchy process and weighted overlay method (WOL) in Karakoram Highway Pakistan. Authors used 10 landslide controlling factors to produce landslide susceptible map over the study area.

Generally, the issue considered in the manuscript is very important to Earth sciences community and could be publish in Earth System Sciences. However, the manuscript does not have the high scientific level presented by the journal.

The issue considered in the manuscript has been deeply discussed for decades, with many papers, methodologies and case studies. New works are more than welcome as long as they contribute something new to Earth science community, which may be new approaches, new case studies, and of course an improvement over the methods already published. Unfortunately this paper, even if engaging, doesn't offer anything new.

Here goes the list of critical shortcomings:

-Generally, WOL method presented in this study was firstly presented in 1994 in work :

Bonham-Carter, G.F., 1994. Geographic information systems for geoscientists: modelling with GIS. Pegamon Press, Oxford.

Since this time a lot of improvements, strategies, combination, comparison with other techniques have been presented in scientific community, the method is not new. Please check this papers with novelties in similar methodologies:

- Yalcin, A. (2008). GIS-based landslide susceptibility mapping using analytical hierarchy process and bivariate statistics in Ardesen (Turkey): comparisons of results and confirmations. *Catena*, *72*(1), 1-12
- Althuwaynee, O. F., Pradhan, B., Park, H. J., & Lee, J. H. (2014). A novel ensemble bivariate statistical evidential belief function with knowledge-based analytical hierarchy process and multivariate statistical logistic regression for landslide susceptibility mapping. *Catena*, *114*, 21-36.
- Pawluszek, K. & Borkowski, A. Nat Hazards (2017) 86: 919. doi:10.1007/s11069-016-2725-y
- Ahmed, B., & Dewan, A. (2017). Application of Bivariate and Multivariate Statistical Techniques in Landslide Susceptibility Modeling in Chittagong City Corporation, Bangladesh. Remote Sensing, 9(4), 304.

Additional drawbacks:

- Introduction

- nothing was said about machine learning methods to assess landslide susceptibility
- generally introduction section should be rewritten in order to give more flow.
- author started the introduction with describing the study area, the importance of the landslide hazard over there and the overview of the landslide susceptibility method without clear paragraph where the objective of the study is described (usually in the end of the introduction section)

- General situation of the study area
  - Based on the information provided in this section ("Weather condition along KKH are not uniform and are characterized by a wide range of annual mean temperatures and precipitation") it seems that study area cover a lot of square kilometers, this information is not provided in the manuscript.
  - I will encourage you to combine section 3 and 4 with the section 2 Study area and then create subsection general setting, geological setting, seismological setting etc.
- Subsection D- hydrology. Where is the image of this factor? What exactly has been used as hydrological factor? Proximity to the river? Precipitation? It is not clearly specified and it is not showed as a figure.
- I encourage you to create a table with all controlling parameter/ layers, which was used for the analysis with one column where the source of the data will be presented, number of classes, weights etc.
- Evaluation. It is written "According to the obtained results, most of the landslide events were found in high and very high susceptibility zone....." You didn't provide the number in the text and in table 4 there is no 4 susceptibility classes but 10 stability zones and landslide density over this zones. It is difficult to evaluate this map because of the heterogeneity.
- There is no information how many landslide was used to create the model, how many landslide to validate the model ? How man percentage?
- Line 9 "However, in our area these parameters seem to have a reduced influence on landslide occurrence" Based on what you are able to say this?
- English should be increased. For instance word geomorphologic or geomorphological is used interchangeably
- Weighted Overlay Method. Even when it is simple *"Weighted Sum"* tool in ArcGIS, some equations to this method are needed. Moreover, the references to this method are missing
- The rule how author classify the final weighed sum into 4 susceptibility zones is missing
- Figures:

Figure 6 Why spatial analysis of controlling factors have been made only for 6 layers not for all controlling parameters which were used? For instance, it will be good to see the how many landslide fall into the specific seismicity zone, land cover zone, hydrology etc. This part is missing.
Figure 4 - no scale
Figure 5 - it will be nice to see on this detailed geology overlaid with the KKH road
Figure 7 and 8 legend for KKH road

Presented research should be extended emphasizing new aspects of the methodology, providing calibration & validation of the proposed method, in addition to comparison with others available in literature. In the reviewer's opinion the manuscript et the present stage should be rejected. However, in case of very interesting study area (KKH) with diverse aspect influencing the landslide activity (seismicity, complex geology etc.) reviewer encourage authors to improve the methodology with some novel techniques (machine learning) or comparison between diverse techniques and resubmit this manuscript to NHESS.