Review Form 1.6

Journal Name:	**Asian Journal of Probability and Statistics**
Manuscript Number:	**Ms_AJPAS_93192**
Title of the Manuscript:	**Useful Extensions of the Juchez Probability Distribution: Properties and Application**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**The research content of this paper is rich and innovative.** **The derivation of the equation is relatively clear.** **The numerical examples are well analyzed. However, there are some errors that need to be corrected.**	
Minor REVISION comments	1. **Proposition 1:** Let Y denote a non-negative continuous random variable such that; $Y\sim Juchez(x,\theta)$, They should be revised as **Proposition 1:** Let Y denote a non-negative continuous random variable such that; $Y\sim Juchez(y,\theta)$, 2. $\frac{\partial x}{\partial m}=\frac{1}{m^2}\rightarrow \partial x=\frac{\partial m}{m^2}$, They should be revised as $\frac{dx}{dm}=-\frac{1}{m^2}\rightarrow dx=-\frac{dm}{m^2}$, 3. $H_{ijd}(x,\theta)=\frac{i_{jd}(x,\theta)}{s_{ijd}(x,\theta)}=\frac{\theta^4[\theta^3+\theta^2+1]e^{-\frac{\theta}{x}}}{x^5\left[(\theta^3+\theta^2+6)-\left\{(\theta^3+\theta^2+6)+\frac{\theta^3}{x}+\frac{\theta^3}{x^3}+\frac{3\theta^2}{x^2}+\frac{6\theta}{x}\right\}e^{-\frac{\theta}{x}}\right]}$ They should be revised as $h_{ijd}(x,\theta)=\frac{i_{jd}(x,\theta)}{S_{ijd}(x,\theta)}=\frac{\theta^4[\theta^3+\theta^2+1]e^{-\frac{\theta}{x}}}{x^5\left[(\theta^3+\theta^2+6)-\left\{(\theta^3+\theta^2+6)+\frac{\theta^3}{x}+\frac{\theta^3}{x^3}+\frac{3\theta^2}{x^2}+\frac{6\theta}{x}\right\}e^{-\frac{\theta}{x}}\right]}$ Where $H_{ijd}(x,\theta)=\int_0^x h_{ijd}(t,\theta)dt$ 4. $L(x,\theta)=\left[\frac{\theta^4}{\theta^3+\theta^2+6}\right]^n\sum_i^n\left(\frac{1}{x^2}+\frac{1}{x^3}+\frac{1}{x^5}\right)e^{-\theta\sum_{i=1}^n\frac{1}{x_i}}$ $ln\mathrm{L}i_{jd}(x,\theta)=4nln\theta-nln(\theta^3+\theta^2+6)+\sum_{i=1}^n\ln\left(\frac{1}{x^2}+\frac{1}{x^3}+\frac{1}{x^5}\right)-\theta\sum_{i=1}^n\frac{1}{x_i}$ (21) They should be revised as $L(x,\theta)=\left[\frac{\theta^4}{\theta^3+\theta^2+6}\right]^n\prod_{i=1}^n\left(\frac{1}{x_i^2}+\frac{1}{x_i^3}+\frac{1}{x_i^5}\right)e^{-\theta\sum_{i=1}^n\frac{1}{x_i}}$ $ln\mathrm{L}i_{jd}(x,\theta)=4nln\theta-nln(\theta^3+\theta^2+6)+\sum_{i=1}^n\ln\left(\frac{1}{x_i^2}+\frac{1}{x_i^3}+\frac{1}{x_i^5}\right)-\theta\sum_{i=1}^n\frac{1}{x_i}$ (21) 5. In equation (27), what do ϑ and b represent respectively? 6. $f_{lm}=\frac{n!\theta^4\left(\frac{1}{x^2}+\frac{1}{x^3}+\frac{1}{x^5}\right)e^{-\frac{\theta}{x}}}{(\theta^3+\theta^2+6)(k-1)!(n-k)!}\sum_{l=0}^{n-k}\binom{n-k}{l}(-1)^l\left[1-\left(1+\frac{\theta x[\theta^2+\theta^2x^2+3\theta x+6]}{\theta^3+\theta^2+6}\right)e^{-\frac{\theta}{x(i+k+1)}}\right]$ (29) $f_{1m}=\frac{n[\theta^4\left(\frac{1}{x^2}+\frac{1}{x^3}+\frac{1}{x^5}\right)e^{-\frac{\theta}{x}}]}{(\theta^3+\theta^2+6)}\sum_{l=0}^{n-1}\binom{n-1}{l}(-1)^l\left[1-\left(1+\frac{\theta x[\theta^2+\theta^2x^2+3\theta x+6]}{\theta^3+\theta^2+6}\right)e^{-\frac{\theta}{x(i+2)}}\right]$ (30) $f_{nn}=\frac{n[\theta^4\left(\frac{1}{x^2}+\frac{1}{x^3}+\frac{1}{x^5}\right)e^{-\frac{\theta}{x}}]}{(\theta^3+\theta^2+6)}\left[1-\left(1+\frac{\theta x[\theta^2+\theta^2x^2+3\theta x+6]}{\theta^3+\theta^2+6}\right)e^{-\frac{\theta}{x(i+n+1)}}\right]$ (31) The above three equations are wrong **There are also some unreasonable symbols. Please check carefully**	

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Optional/General comments		

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	**Bing Long**
Department, University & Country	**School of Mathematics and Physics, Jingchu University of Technology, China**