

# MOBILE PRICE BASKETS (DECEMBER 2007 v1.1)

## Background

Three kinds of price indicators:

- *T-Baskets, OECD* ([http://www.teligen.com/t\\_basket.asp](http://www.teligen.com/t_basket.asp))  
OECD-based and OECD-authorized; takes pricing information from the Teligen Master Tariff Database.  
A technique to create comparable user baskets based on actual user profiles.  
Takes into consideration most popular plans of the largest operator (based on subscribers) in each country; connection charges and monthly subscription; call and SMS use; taxes; and free minutes/SMS, etc.
- *The Core ICT Indicators document, Partnership on Measuring ICT for Development* (<http://www.itu.int/ITU-D/ict/partnership/>)  
Compares the cost of 100 minutes of use per month (50 minutes of local peak time calling and 50 minutes of local off-peak calling), and is intended to represent an average use basket which is applicable to individual consumers.
- *ITU basket of call charges*  
Considers separate indicators for connection charges, rental, SMS and the price of a 3-minute local call.

Why OECD T-Baskets?

Provides a comprehensive tariff indicator as opposed to other methodologies.

Has been in use since 1995 with periodic recalibrations and improvements.

## Adapted methodology (based on OECD methodology)

1. *Currency calculations:* Tariffs are made available in US Dollars.
2. *Treatment of taxes:* Tariffs include value added tax (VAT) and/or any other communication levies.
3. *Basket composition:*
  - a. The price of the handset and handset subsidies are **not** taken into account in the basket.
  - b. 1/3 of the registration or installation charges (i.e. depreciated over 3 years) where applicable.
  - c. Monthly rental charges and any optional charges that may apply to the package.
  - d. The usage profile will also include a number of SMS messages per month.
  - e. The three user baskets based on individual data from Bangladesh, Pakistan, India and Sri Lanka are:
    - *Low user basket*
    - *Medium user basket*
    - *High user basket*
  - f. Minutes of use and SMS message volumes for each basket are:

	OECD*	Weighted Average**
Voice, minutes of use per month		
Low User	44	89
Medium User	114	231
High User	246	499
SMS per month		
Low User	33	20
Medium User	50	30
High User	55	33

\* OECD methodology provides only call and SMS volumes per year. Based on the average durations of calls (discussed below), we find the average number of minutes used per month for OECD low, medium and high user baskets. This is done because data

(from the four countries analyzed here) comes in the form of minutes of use per month or year and not in call volumes per month or year.

\*\* The common basket (weighted average) was calculated based on numbers from Bangladesh (RACE, July 2007), Pakistan (PTA, June 2007), India (TRAI, March 2007) and Sri Lanka (Operator data, March 2007).

4. *Prepaid vs. Postpaid packages:* There will be different baskets for prepaid and postpaid.

5. *Call destination:*

- a. Local area fixed line calls: this is used to accommodate the tariffs that have separate charges for the local area. When such charges are not available, this proportion of calls is included in the 'National fixed line' call category.
- b. National fixed line calls: this covers all fixed line calls outside the local area, except in cases as noted above.
- c. Same network mobile calls (On-net): this includes all calls made to mobiles in the same mobile network as the caller.
- d. Other network mobile calls (Off-net): this includes calls to all other mobile networks in the caller's country. When the charges are different depending on destination network, the market shares based on subscriber numbers are used for weighting the charges. Up to 3 other networks will be considered in each country.
- e. Distribution of calls and messages over different (types of) destinations are given as a percentage of the total number of calls and messages:

Call made to	Low User	Medium User	High User
Local, Fixed line	0.15	0.14	0.13
National, Fixed line	0.07	0.07	0.07
On-net, Mobile	0.48	0.48	0.47
Off-net, Mobile	0.22	0.24	0.26
Voicemail	0.08	0.07	0.07
<b>Total</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>

6. *Peak/off-peak differentials:* Instead of splitting time and day into distinct times and days the following approach will be used:

- a. Peak time calls at weekdays, most expensive time during daytime.
- b. Off-peak time calls at weekdays, cheapest time before midnight.
- c. Weekend time calls, at daytime Sundays.
- d. Distribution of calls over time of day is given as a percentage of the number of voice calls

	Low User	Medium User	High User
<b>Peak</b>	0.48	0.50	0.60
<i>Off peak</i>	0.25	0.24	0.19
<i>Weekend</i>	0.27	0.26	0.21
<b>OP+WK</b>	0.52	0.50	0.40
Total	100	100	100

7. *Call duration:* There will be 4 separate call durations:

- a. Local and national fixed line calls.
- b. Same network mobile calls (On-net).
- c. Other network mobile calls (Off-net).
- d. Voicemail calls
- e. Call durations for each basket:

By duration	Low User	Medium User	High User
Local and national, Fixed line	1.5	<b>1.8</b>	1.7
On-net, Mobile	1.6	<b>1.9</b>	1.9
Off-net, Mobile	1.4	<b>1.7</b>	1.8
Voicemail	0.8	<b>0.8</b>	0.8

8. *Inclusive minutes and SMS messages:*
  - a. Any inclusive minutes will be deducted from the basket usage before starting the calculation of usage cost. The inclusive minutes are assumed to be used up with the same calling pattern is described in the basket i.e. the same/peak off-peak ratio and the same distribution across destinations. Where the inclusive minutes are clearly limited to specific destinations or times of day this will be taken into account. No transfer of unused minutes is taken into account.
  - b. Any inclusive SMS message will be deducted from the basket before starting the calculation of the SMS message cost, up to the number of messages in the basket.
9. *Selection of package and operator:*
  - a. For each of the operators covered a set of packages shall be included so that the cheapest package offered by that operator can be calculated for each of the 3 baskets.
  - b. Multiple operators in each country shall be included with at least the two operators with the highest number of subscribers in each country. The included operators shall have a composite market share of over 50% based on the previous year's subscriber figures.
10. *Timeframe:* Basket results are calculated for a period of one month.

### **Assumptions**

1. Since data on call distributions by destination, time of day and duration were not available publicly for Bangladesh, Pakistan, India and Sri Lanka, we utilized the latest OECD weights (detailed above in 5, 6, and 7) to calculate the price baskets for the four countries. While the OECD weights may not reflect Asian usage patterns accurately, they were loosely verified using LIRNEasia's Teleuse@BOP findings and were deemed applicable for use.
2. Given that RPP is still utilized in Sri Lanka, RPP is accommodated for in this methodology by assuming an equal number of incoming and outgoing calls and taking the average, since different rates apply for incoming and outgoing calls. There has been some preceding work which accommodates an RPP regime by assuming that half the minutes constitute incoming and the remaining half constitute outgoing. Ponder and Markova (2005) utilized a 50-50 split to accommodate Russia's RPP regime in their analysis of stimulating mobile telecommunication diffusions in transition countries.

### **Tariff packages**

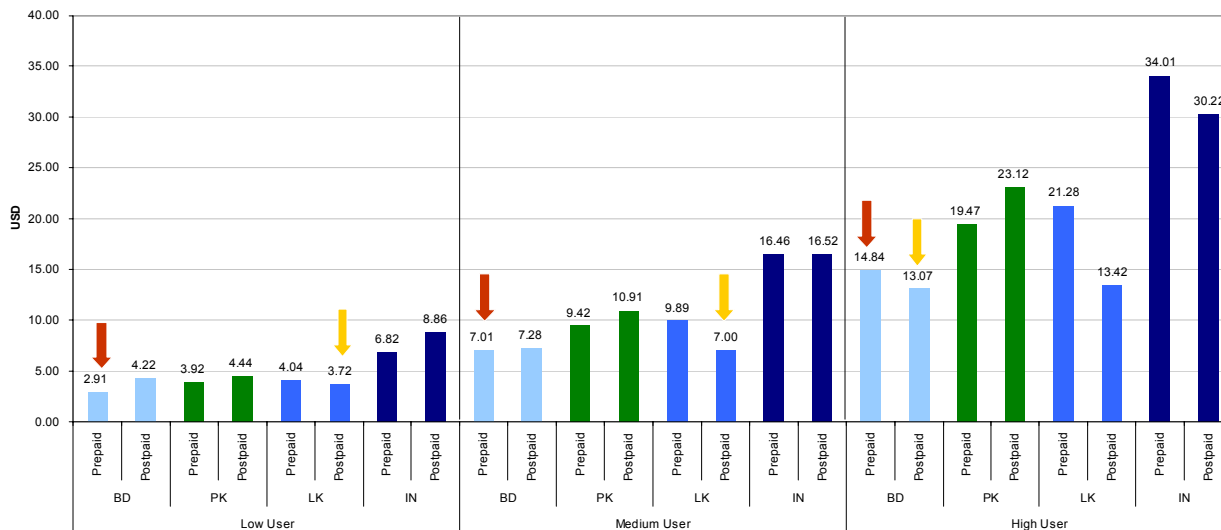
1. Bangladesh – Grameen Phone
  - a. Postpaid – Xplore1
  - b. Prepaid – Smile
2. Pakistan – Mobilink
  - a. Postpaid – Indigo Freedom Plan 1
  - b. Prepaid – Jazz Budget
3. India – Bharti Airtel
  - a. Postpaid – Standard 99 Plus
  - b. Prepaid – Regular
4. Sri Lanka – Dialog GSM
  - a. Postpaid – Lite 103
  - b. Prepaid – KIT Standard

## Mobile tariff comparison

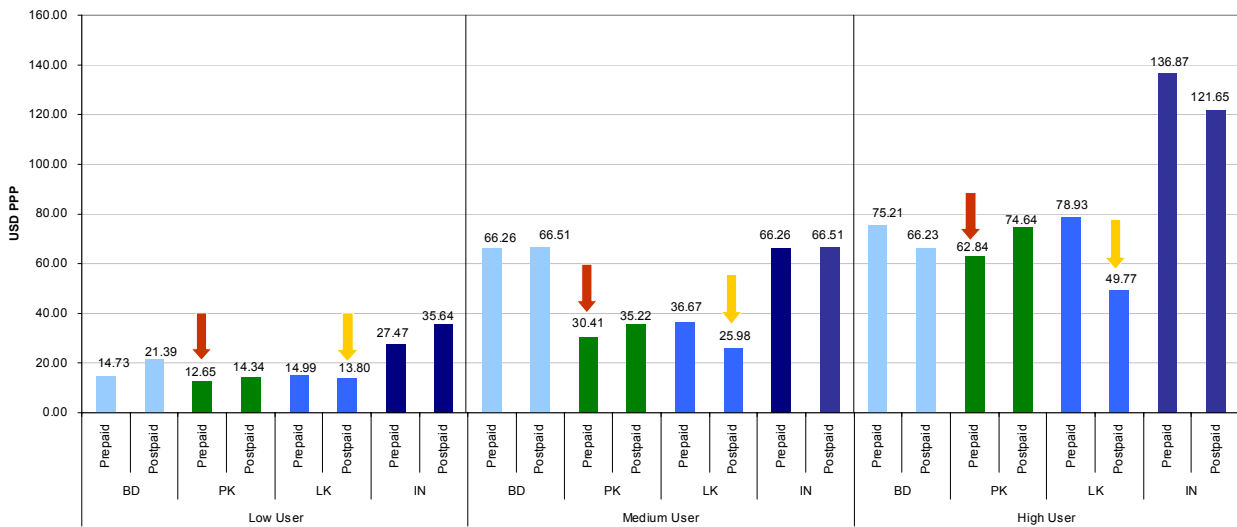
	Bangladesh		Pakistan		India		Sri Lanka	
	Postpaid	Prepaid	Postpaid	Prepaid	Postpaid	Prepaid	Postpaid	Prepaid
	Xplore1	Smile	Freedom Plan 1	Jazz Budget	Standard 99 Plus	Regular	Lite 103	KIT Standard
<b>Connection Charges</b>	11.70	<b>2.19</b>	8.16	8.16	6.33	2.50	9.05	7.24
<b>Subscription (rental) fee</b>	1.46	0	0	0	2.50	0	0.90	0
<b>Usage charges:</b>								
- Incoming	0	0	0	0	0	0	0.036	0.054
- Outgoing (Fixed local)	<b>0.022</b>	0.029	0.041	0.041	0.050	0.061	0.054	0.054
- Outgoing (Fixed national)	<b>0.022</b>	0.029	0.041	0.041	0.050	0.070	0.054	0.054
- Outgoing (On net)	<b>0.022</b>	0.029	0.033	0.029	0.030	0.030	0.027	0.036
- Outgoing (Off net)	<b>0.022</b>	0.029	0.053	0.041	0.030	0.051	0.054	0.054
- SMS								
On net	0.022	0.022	0.016	0.016	0.030	0.030	<b>0.009</b>	<b>0.009</b>
Off net	0.029	0.029	<b>0.016</b>	0.024	0.030	0.030	0.018	0.018
- MMS	0	0	0.098	0.098	0.127	0.127	<b>0.018</b>	<b>0.018</b>
- Voicemail	0	0	0.065	0	0.076	0.076	<b>0.027</b>	<b>0.027</b>
Source	Operator Websites, September 2007							
Exchange rate	USD 1 = BDT 68.375		USD 1 = PKR 61.3		USD 1 = INR 39.525		USD 1 = LKR 113.42	
Source	Yahoo Finance (December 2007)							

## Findings

### December 2007 - USD



## December 2007 – USD PPP



↓ Cheapest prepaid

↓ Cheapest postpaid

### Findings explained

- Bangladeshi rental and tariff rates are cheapest, while Indian tariff rates are among the highest of the four for the packages evaluated.
- In terms of USD comparisons, Bangladesh and Sri Lanka have the lowest basket rates. But when USD PPP comparisons are considered, Pakistan's prepaid and Sri Lanka's postpaid emerge with the lowest basket rates.
- Rental charges significantly increase the basket price at low and medium levels of use, while call rates account for more at high levels of use.