Human:dog ratios obtained from detailed studies in a range of rural and urban settings worldwide that could be used as a preliminary guideline of the number of owned dogs for planning purposes and vaccine procurement (e.g. for campaigns that need to be implemented with some urgency).

Country	Setting	Humans per dog	Source	Notes
Africa – All	Urban	21.20	Knobel et al. 2005	Mean ratio for the all region
Africa –All	Rural	7.40	Knobel et al. 2005	Mean ratio for the all region
Tanzania	Rural: agro-pastoralist	7.26	Kaare et al. 2009	
Tanzania	Rural: pastoralist	7.55	Kaare et al. 2009	
Tanzania	Rural: inland	7.60	Knobel et al. 2008	
Tanzania	Rural: coastal	10.80	Knobel et al. 2008	
Tanzania	Urban: inland	14.40	Knobel et al. 2008	
Tanzania	Urban: coastal	27.20	Knobel et al. 2008	
Nigeria	Urban	4.10	El-Yuguda et al. 2007	
Nigeria	Rural	3.20	El-Yuguda et al. 2007	
Kenya	Rural, peri-urban	8.00	Kitala et al. 2001	
Madagascar	Urban	4.50	Ratsitorahina et al. 2009	
Zambia	Urban	45.00	De Balogh et al. 1993	
Zambia	Rural	6.70	De Balogh et al. 1993	
Southern Africa	Rural	11.10	Rautenbach et al. 1991	
Zimbabwe	Urban	16.00	Brooks 1990	
Zimbabwe	Rural	4.50	Brooks 1990	
Chad	Urban	21.50	Mindekem et al. 2005	
Asia – All	Urban	7.50	Knobel et al. 2005	Mean ratio for the all region
Asia – All	Rural	14.30	Knobel et al. 2005	Mean ratio for the all region
India		36.00	Sudarshan et al. 2006	
Thailand		4.60	Kongkaew et al. 2004	
Philippines		3.80	Robinson et al. 1996	
China –All	Urban and rural	48.30	Knobel et al. 2005	Mean ratio for the all region
Mexico	Urban	3.40 - 4.30	Fishbein et al. 1992; Flores-Ibarra & Estrella-Valenzuela 2004	
Bolivia	Urban	4.60	Suzuki et al. 2008	
Brazil	Urban	4.0	Alves et al. 2005	
Ecuador	Urban	7.60	Beran & Frith 1988	
North America and Europe		6.00 – 10.00	Wandeler et al. 1988	

References:

Alves MC, Matos MR, Reichmann Mde L, Dominiguez MH (2005). Estimation of the dog and cat population in the State of São Paulo. Rev Saude Publica 39: 891 – 897.

Beran GW, Frith M (1988). Domestic animal rabies control: an overview. Rev Infect Dis 10 Suppl 4:S672 – 677.

Brooks R (1990). Survey of the dog population of Zimbabwe and its level of rabies vaccination. Vet Rec 127: 592 – 596.

De Balogh KK, Wandeler AI, Meslin FX (1993). A dog ecology study in an urban and a semi-rural area of Zambia. Onderstepoort J Vet Res 60: 437 – 443.

El-Yuguda AD, Baba AA, Baba SSA (2007). Dog population structure and cases of rabies among dog bite victims in urban and rural areas of Borno Sate, Nigeria. Trop Vet 25: 34 – 40.

Fishbein DB, Frontini MG, Dobbins JG, Flores Collins E, Quiroz Huerta G, Gamez Rodriguez JJ, Woo-Ming B, Garza Ramos J, Belotto AJ, Balderas Torres JM, et al. (1992). Prevention of canine rabies in rural Mexico: an epidemiologic study of vaccination campaigns. Am J Trop Med Hyg 47: 317 – 327.

Flores-Ibarra M, Estrella-Valenzuela G (2004). Canine ecology and socioeconomic factors associated with dogs unvaccinated against rabies in a Mexican city across the US-Mexico border. Prev Vet Med 62: 79 – 87.

Kaare M, Lembo T, Hampson K, Ernest E, Estes A, Mentzel C, Cleaveland S (2009). Rabies control in rural Africa: evaluating strategies for effective domestic dog vaccination. Vaccine 27: 152 – 160.

Kitala P, McDermott J, Kyule M, Gathuma J, Perry B, Wandeler A (2001). Dog ecology and demography information to support the planning of rabies control in Machakos District, Kenya. Acta Trop 78: 217 - 230.

Knobel DL, Cleaveland S, Coleman PG, Fèvre EM, Meltzer MI, Miranda ME, Shaw A, Zinsstag J, Meslin FX (2005). Re-evaluating the burden of rabies in Africa and Asia. Bull World Health Organ 83: 360 – 368.

Knobel DL, Laurenson MK, Kazwala RR, Boden LA, Cleaveland S (2008). A cross-sectional study of factors associated with dog ownership in Tanzania. BMC Vet Res 4: 5.

Kongkaew W, Coleman P, Pfeiffer DU, Antarasena C, Thiptara A. (2004). Vaccination coverage and epidemiological parameters of the owned-dog population in Thungsong District, Thailand. Prev Vet Med 65: 105 – 115.

Mindekem R, Kayali U, Yemadji N, Ndoutamia AG, Zinsstag J (2005). Impact of canine demography on rabies transmission in N'djamena, Chad. Med Trop (Mars) 65: 53 – 58.

Ratsitorahina M, Rasambainarivo JH, Raharimanana S, Rakotonandrasana H, Andriamiarisoa MP, Rakalomanana FA, Richard V (2009). Dog ecology and demography in Antananarivo, 2007. BMC Vet Res 5: 21.

Rautenbach GH, Boomker J, de Villiers IL (1991). A descriptive study of the canine population in a rural town in southern Africa. J S Afr Vet Assoc 62: 158 – 162.

Robinson LE, Miranda ME, Miranda NL, Childs JE (1996). Evaluation of a canine rabies vaccination campaign and characterization of owned-dog populations in the Philippines. Southeast Asian J Trop Med Public Health 27: 250 – 256.

Sudarshan MK, Mahendra BJ, Madhusudana SN, Ashwoath Narayana DH, Rahman A, Rao NS, X-Meslin F, Lobo D, Ravikumar K, Gangaboraiah (2006). An epidemiological study of animal bites in India: results of a WHO sponsored national multi-centric rabies surveys. J Commun Dis 38: 32 – 39.

Suzuki K, Pereira JA, Frías LA, López R, Mutinelli LE, Pons ER (2008). Rabies-vaccination coverage and profiles of the owned-dog population in Santa Cruz de la Sierra, Bolivia. Zoonoses Public Health 55 : 177 – 183.

Wandeler AI, Budde A, Capt S, Kappeler A, Matter H (1988). Dog ecology and dog rabies control. Rev Infect Dis 10 Suppl 4: S684 – 688.