

## Nouna Health and Demographic Surveillance System (NHDSS)

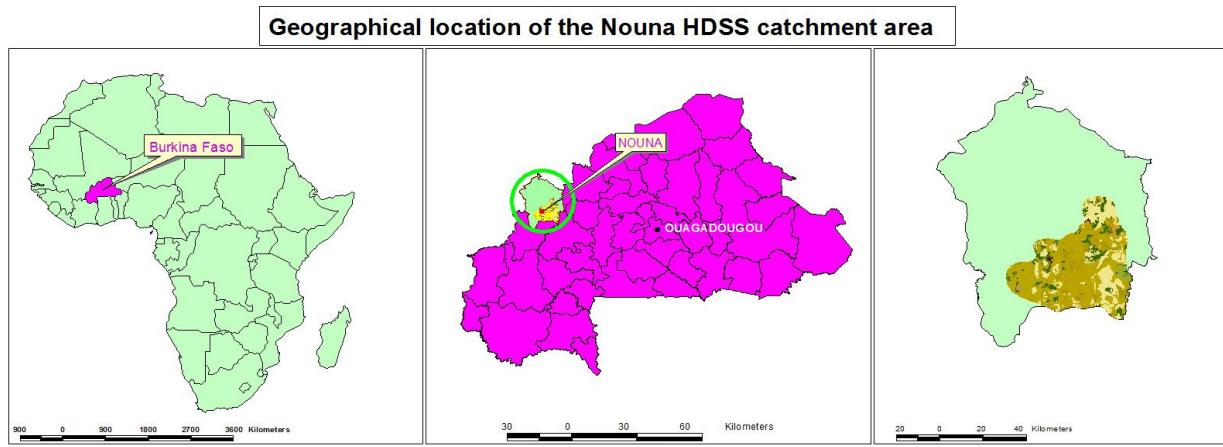


Figure 1: Map of the Nouna HDSS catchment area

### Brief Description of Nouna HDSS

The Nouna Health Research Centre (CRSN) is one of the four research institutes of the Ministry of Health. It has been running an HDSS since 1992. The Nouna HDSS is located within the Nouna health district catchment area in northwest Burkina Faso, 300 km from the capital city, Ouagadougou. The HDSS area is characterized by a Sub-Saharan climate with a mean annual rainfall of 800mm with fairly constant average daily min. (20-28.1°C) and max temperature (29.5-37.2°C) throughout the year. Rainfall occurs from Mai-September. The region consists of "Plateaux" with gentle slopes and drained by several small semi-permanent streams. The HDSS catchment area is about 1775 Km<sup>2</sup> with the specificity of covering both rural and semi-urban areas. The population is about 90,000 residing in 11,750 households across 58 villages and Nouna town. Subsistence farming is the predominant occupation.

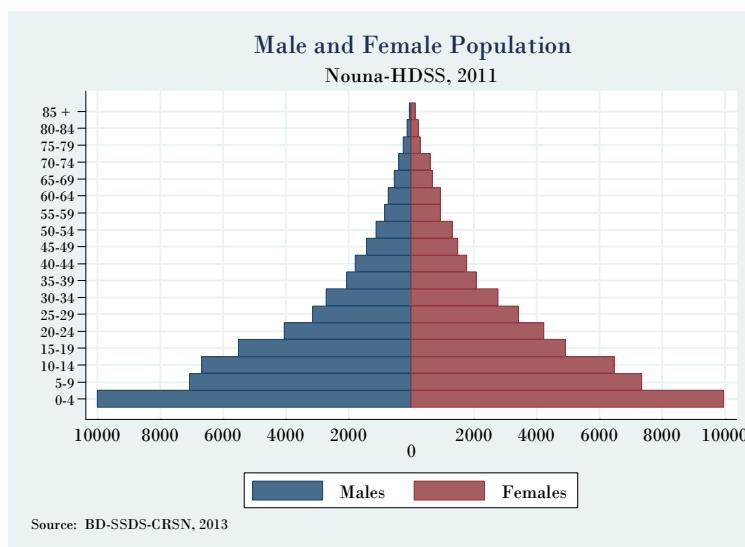


Figure 2: Nouna Population Pyramid, 2011

## **Demographic Characteristics for the year 2011**

Crude Birth Rate (CBR)	35,14 %
Crude Death Rate (CDR)	8,5%o
Neonatal Mortality	8,8%o
Post-neonatal Mortality	29,9%o
Infant Mortality	35,8%o
Child Mortality (1-4 years)	16,9%o
Under Five Mortality	98,8%o
Rate of Natural Increase	26,6%o
In-Migration	80,7%o
Out-Migration	81,8%o
Growth	3,4%o (2000-2011)

Within a needs-oriented focus of four core areas that are:

- *Health System Research (treatment seeking behaviour, malaria case management, quality of care, health financing, research to policy, reproductive health, health and equity, adult health, migration, assessment of poverty reduction strategies)*
- *Biomedical Research (parasitology, entomology, biochemistry in malaria and virology in HIV/AIDS, bacteriology in meningitis)*
- *Clinical Research (new and old drugs in malaria, treatment of meningitis, resistance in ARV drugs)*
- *Global Climate change and environmental health;*

The CRSN is assigned the following main objectives and missions:

- Conceptualize and lead multidisciplinary field-based health-research projects relevant to national health policy;
- Disseminate results of the research to promote health-sector reforms;
- Contribute to capacity-building in health research; and
- Provide the Ministry of Health with evidence-based data for health policy and planning.

## **FUNDERS**

- Ministry of Science and Arts of the Land of Baden Württemberg/ Germany
- University of Heidelberg
- Ministry of Health, Burkina Faso
- Tropical Diseases Research/WHO
- European Union
- ICDR/Canada
- Pfizer
- Sanofi aventis
- Projet de Renforcement des Services de Santé/ African Development Bank

- European Union

## COLLABORATORS

- Centre Muraz (Projet IMMPACT)
- Centre National de Recherche et de Formation sur le Paludisme (CNRFP)
- Institut de Recherche sur le Développement (IRD)- Burkina Faso
- Institut National de la Statistique et de la Démographie (INSD)
- Ministère de l'Enseignement de Base et de l'Alphabétisation (MEBA)
- Programme National de Lutte contre le Paludisme (PNLP)
- Institut Supérieur des Sciences de Population (ISSP)
- UFR-SDS /Université de Ouagadougou
- Direction Générale de la Météorologie
- International Network of field sites with continuous Demographic Evaluation of Populations and Their Health (INDEPTH Network)
- Institut National de Recherche en Santé Publique/ Mali
- Université of Heidelberg/ Germany
- IHCAR-Karolinska Institute / Sweden
- Muimbili University College of Health Sciences- Dar es Salam / Tanzanie
- University of Montréal / Canada
- Institut Universitaire des Etudes pour le Développement de Genève (IUED)/ Switzerland
- Pfizer
- Sanofi aventis

## KEY PUBLICATIONS

1. **Ouedraogo N., Kagoné M., Sié A., Becher H., Müller O.** Immunization coverage in young children: A study nested into a health and demographic surveillance system in Burkina Faso. Journal of Tropical Pediatrics - Manuscript ID JTP-2012-141-OP.R2
2. **Eric Diboulo, Ali Sié, Joacim Rocklov, Louis Niamba, Maurice Yé, Cheik Bagagnan, Rainer Sauerborn.** Weather and Mortality: a 10 years retrospective analysis of the Nouna Health and Demographic Surveillance System (HDSS), Burkina Faso. Glob Health Action 2012, 5: 19078 - <http://dx.doi.org/10.3402/gha.v5i0.19078>
3. **Blomstedt Y, Souares A, Niamba L, Sie A, Weinehall L, Sauerborn R.** Measuring self-reported health in low-income countries: piloting three instruments in semi-rural Burkina Faso. Glob Health Action. 2012;5. doi: 10.3402/gha.v5i0.8488.
4. **De Allegri M, Louis VR, Tiendrébeogo J, Souares A, Yé M, Tozan Y, Jahn A, Mueller O.** Moving towards universal coverage with malaria control interventions: achievements and challenges in rural Burkina Faso. Int J Health Plann Manage. 2012 Jun 11. doi: 10.1002/hpm.2116.

5. **Ramroth H, Lorenz E, Rankin JC, Fottrell E, Yé M, Neuhann F, Ssennono M, Sié A, Byass P, Becher H.** Cause of death distribution with InterVA and physician coding in a rural area of Burkina Faso. *Trop Med Int Health.* **2012** Jul;17(7):904-13. doi: 10.1111/j.1365-3156.2012.02998.x.
6. **Louis VR, Bals J, Tiendrebéogo J, Bountogo M, Ramroth H, De Allegri M, Traoré C, Beiersmann C, Coulibaly B, Yé M, Jahn A, Becher H, Müller O.** Long-term effects of malaria prevention with insecticide-treated mosquito nets on morbidity and mortality in African children: randomised controlled trial. *Trop Med Int Health.* **2012** Apr 23. doi: 10.1111/j.1365-3156.2012.02990.x.
7. **Beiersmann C, Bountogo M, Tiendrébeogo J, Louis VR, Gabrysch S, Yé M, Jahn A, Müller O.** Malnutrition in young children of rural Burkina Faso: comparison of survey data from 1999 with 2009. *Trop Med Int Health.* **2012** Apr 23. doi: 10.1111/j.1365-3156.2012.02985.x.
8. **Peter Dambach, Vanessa Machault, Jean-Pierre Lacaux, Cecile Vignolles, Ali Sie and Rainer Sauerborn.** Utilization of combined remote sensing techniques to detect environmental variables influencing malaria vector densities in rural West Africa. *International Journal of Health Geographics* 2012, **11**:8 doi:10.1186/1476-072X-11-8
9. **Robyn PJ, Fink G, Sié A, Sauerborn R.** Health insurance and health-seeking behavior: Evidence from a randomized community-based insurance rollout in rural Burkina Faso. *Soc Sci Med.* 2012 Jan 21.
10. **Traoré I., Sié A., Coulibaly B., Yé M., Karthe D., Kappas M., (2012),** "Rapid screening and mapping of urinary schistosomiasis prevalence at the village scale in the Sourou Valley, Burkina Faso: Adapting the school-base questionnaire method", in M. Kappas, U. Groß, D. Kelleher, (eds.) *Global Health. A Challenge for Interdisciplinary Research;* Universitätverlage Göttingen, pp. 255-281.



INESS Project sensitization team



Nouna HDSS population during a sensitization session