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# ブルキナファソ周辺地域における衛生的行動適合と継続のための社会学的フレームワーク

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## A Sociological Framework for Adoption and Maintenance of Hygienic Behaviours in Rural Burkina Faso

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abstract

本論文は、ブルキナファソでのフィールド調査のための構成概念検討を目的としたフレームワーク論文であり、ブルキナファソ周辺地域における衛生的行動適用と維持に影響を与える決定因子を探る社会学的アプローチのための論考である。衛生学と衛生的行動は社会の中で複合的な役割を果たしている。その役割には、病気（疫病）を防ぐことや、秩序や美容の要求を満たすこと等がある。ブルキナファソ周辺地域における衛生学と衛生的行動の変化を構造的因果モデルで表すため、本研究ではいくつかの理論や手法をもとにフレームワークが構築されている。具体的には、タブー理論（社会人類学）、ダイナミック理論（政治人類学、社会学、社会人類学）や健康行動変化理論（公衆衛生学や行動科学）である。

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# Introduction

Since early 1996, the Burkina Faso government has been committed to improve hygiene and sanitation among its population. This commitment was renewed in 2000, with the alignment of the national policy in accordance to the international framework of Millennium Development Goals. Goal 7, target 7 C aimed to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015 (UN-Water, 2010). Despite these commitments, in more than 30 of the 45 provinces open defecation was still practiced by more than 70% of the inhabitants (Ministère de l'Agriculture et de l'Hydraulique du Burkina Faso, 2011). In 2014, only 3.9% of households in the rural areas had access to toilets, according to the national institute of statistics (Institut national de la statistique et de la démographie du Burkina Faso, 2015).

With the aim of developing a working concept for a field work in Burkina Faso, this article is a framework for the sociological approach that explores the determinants that may affect the adoption and the maintenance of hygienic behaviours in rural communities in Burkina Faso. Hygiene and sanitation behaviours play complex roles in the society: they serve to prevent diseases while serving the desire for order and aesthetics (Curtis, Cairncross, and Yonli, 2000). To draw a structured causal model for hygiene and sanitation behavioural changes in rural Burkina Faso, this study builds a framework through several theories and approaches, namely the taboo theory (social anthropology), the dynamist approach (used in political anthropology, sociology and socio-anthropology) and the health behaviour change theories (used in public health and behavioural sciences).

In regard to the social anthropological approach, I will mainly cover the taboo theory (Douglas, 2002; Douglas, 1975), a pioneering study on hygienic and sanitation in African communities. What are the major determinants of hygiene and sanitation based on the taboo theory that may be useful to understanding the African context of Burkina Faso?

This article argues that the taboo theory, which focuses on the internal dynamics of the communities, has failed to embrace all the determinants of hygienic behaviours in rural communities of Africa. For that reason, additional theories, such as the dynamist approaches done by Balandier (Balandier, 1970; Balandier 2004), and de Sardan (De Sardan 1991; Bierschenk, Chauveau, and De Sardan, 2002), show the importance of considering the structural dynamics in understanding behavioural changes in Africa. In addition to the anthropological approach of Douglas and social change approaches, there is a need to check the health behavioural studies where hygiene and sanitation has been a concern, especially in the African context to identify additional determinants.

In an effort to do so, this article is divided into three main parts: in the first part I will define determinant concepts related to understanding hygiene through Douglas's theory of taboo. Then, the dynamist approach of Balandier (Balandier, 1970; Balandier 2004) and De Sardan (De Sardan 1991; Bierschenk, Chauveau, and De Sardan, 2002) will be used to explain the importance of interactions between internal and external structures in studying African villages. Last, health behavioural change models will serve to identify determinants for hygiene and sanitation based on existing literature in hygiene and sanitation in Africa.

# 1 Social anthropological approach: Taboo theory

Douglas's approach to hygiene, published in 1966 (Douglas, 2002), is far from being obsolete, it remains part of the definition of sanitation concept in the International Encyclopedia of Social Sciences (Van der Geest; 2008). The concepts conveyed therein are still important, i.e., the relationship between dirt and social status and aesthetics in modeling behavioral changes in hygiene and sanitation (Curtis, Cairncross, and Yonli, 2000). Most of the social studies of hygiene and sanitation in Africa are based upon the taboo theory first forwarded by Douglas (Douglas, 2002; Douglas, 1975). For example, in the specific case of Burkina Faso many sociologists and anthropologists working on rural development (Zougouri, 2008), litter management and pollution (Traore, 2011) and epidemiologists who study hygiene (Curtis, 2007) continue to use this theory to support their studies and arguments. What are the main determinants of hygienic behaviour in the taboo theory?

## 1.1 Concepts of Dirt

In the taboo theory (Douglas, 2002; Douglas, 1975), dirt and cleanliness are the primary opposing types of behaviour in any society, especially in what Douglas labels primitive cultures where these states are particularly regulated and controlled through the social rules of taboo in which people have to choose the clean and avoid the dirt. Dirt refers to anything that is unclean and assimilated with pollution and defilement or disorder classified by a particular society. More precisely, dirt, uncleanness and pollution are assimilated with the same meaning of disaster threatening society in the primitive world. Dirt is synonymous with disorder and threats to people in an environmental context.

### 1.1.1 Dirt is a matter of order and classification

Order is about restrictions and limited selections, while disorder stands for a threat to the community. Societies seek to create order and avoid dirt. What is unclean is seen as destructive power for the community. Dirt is part of community

classification systems and the cultural beliefs that govern each society or individual actor. This symbolic classification varies between communities. Behaviour for avoiding dirt is defined and structured to fit a particular community's moral or religious beliefs. Dirt or pollution behaviour should be considered according to each community or social group. In defining the classification or order between cleanness and dirt, the boundaries in which researchers need to take into account (the context in which they refer to as dirt) is a matter of contextual beliefs and classifications.

### 1.1.2 Rules of taboo and Aesthetics as the drivers of behaviors

Douglas distinguished the pollution behaviors of the civilized people from the behaviors of the primitive cultures. In the civilized world, dirt seems to be a matter of disorder with a focus on its aesthetic dimensions. But dirt appears as defilement, or disrespect towards moral conventions, in communities considered as primitives. In large part, moral values regulate the pollution beliefs of a culture and "pollution behavior is a protective device." (Douglas, 1975). Summarizing the concepts as they have been used in the taboo theory: dirt is conceptually opposed to cleanliness regulated and separated through an imaginary frontier, moral conventions or "rules of taboo", where there is very low tolerance threshold.

### 1.1.3 The determinant role of Religion in Communities and Cultures

"A grave pollution is a religious offense" (Douglas, 2002: 92) in the "primitive" societies. Pollution refers to defilements or a taboo regulated by demons and ghosts that are dangerous entities waylaying at the fringe of a society. These dangers could affect members of the communities. A member of the society who committed dirt cannot extricate himself/herself from the dirt as the rules apply, and s/he may contaminate other members. Rules of taboo are learned through rites: rituals are symbolic structures which aim at creating and controlling people through social relations and actions (Douglas, 2002). Individuals learn through these rituals how to be a member of the community by avoiding dirt. Even though Douglas (2002) recognized the importance of society as a system of auto-regulation with powers, contradictions and dangers serving to state margins between order and the threatening dirt, the taboo theory exaggerates the role of religion in regulating hygienic behaviour. Religion is one factor that may affect sanitation and hygiene practices, but it is clear that many others factors need to be considered when analyzing hygienic behaviour (Curtis, Cairncross, and Yonli, 2000).

## 1.2 Dirt affects social status: purification and dirt-avoidance

Rules of hygiene or dirt-avoidance, can only be interpreted by placing them in the society in which the idea of dirt or pollution is studied and analyzed (Douglas,

2002). Based on the separation of dirt and cleanliness, an internal process aims at preventing the dirt or reintegrating those already affected where dirt exists.

### 1.2.1 Dirt avoidance: conformity and fear of dangers as motives for dirt-avoidance

Dirt-avoidance is an effort people make to constantly avoid being "polluted". "Dirt-avoidance is a process of tidying up, ensuring that the order in external physical events conforms to the structure of ideas. Pollution rules can be seen as an extension of the perceptual process: in so far as they impose order on experience, they support the clarification of forms and thus reduce dissonance." (Douglas, 1975: 53).

In so-called primitive societies, ritual uncleanness is considered to be a common effort undertaken in order to organize the environment" in which people are living together in harmony with their moral values and beliefs regulating their behaviour in opposition to dirt.

Applying societal structural powers on individuals guarantees their conformity to dirt avoidance rules and moral values in the community itself. Conformity and fear of dangers are beliefs that motivate behaviors and social norms directed towards pollution in the primitive world communities. Sanctions collectively serve to ensure that every member of the community conforms to norms and avoids the threats of being contaminated by the power of dirt. Through such a worldview, order is kept through restrictions (Douglas, 2002) because disorder would be destructive to existing social structures.

### 1.2.2 Purification reintegrates individuals, contaminated by dirt.

Purification is the process of cleaning what has become dirty and making it more acceptable to the social conventions of "clean" norms. Members in contact with dirt are marginalized, and all precautions and reintegration procedures of such person in the social order cannot be taken by him/herself but it will be the task or duty of order to take action for or against that person (Douglas, 2002). The purification process is thus a re-ordering process from marginalization in which a member of the community has been placed because s/he has been contaminated by dirt, to his/her reintegration as a member of the community. S/he must be re-assigned a new social position through rituals in order to be able to leave the margins of the social structure and return to being an acceptable member of that society. To clarify this point Douglas compared this situation to the cases of mental diseases or prisoners in the civilized world where only other members of the society can decide for or against them on a case by case basis. For example, in a court of law someone who has committed an infringement cannot decide his or her future. That can be only done by other members of the society such as a jury or judge.

Douglas said "each primitive culture is a universe to itself" (Douglas, 2002: 4). Douglas's opinions (Douglas, 2002; Douglas, 1975) of community behaviour are

treated as closed and without interaction with their environment. Such interpretation, placed within a specific culture may disclose further insight on the matter of hygienic behaviour's internal determinants, notwithstanding important in exploring the external dynamics. Even though in two chapters, Douglas (2002) acknowledged the dynamics and the changes that may arise internally within cultures, her taboo theory fails to explore all the dimensions of African rural communities, especially their external dynamics.

Curtis (2011), recollecting anthropologist views, has shown that hygiene studies should look at hygiene from two perspectives: from the inside and from the outside. Having dealt with Douglas's main concepts regarding dirt, which is mainly driven by internal community factors, the following section will highlight the need for considering both the inside and the outside dimensions in studying rural communities in Africa through the dynamist approach developed in political anthropology and sociology by Georges Balandier (Balandier and Sheridan, 1970; Balandier, 2004) and expand upon Olivier De Sardan (De Sardan 1991; Bierschenk, Chauveau, and De Sardan, 2002). This will be done in two separate parts: The first part will be an analysis of the fundamental aspects of social change theory, as it appears in Balandier (Balandier, 1970; Balandier, 2004), and the second will utilize the factors emphasized as important by De Sardan (De Sardan, 1991; Bierschenk, Chauveau, and De Sardan, 2002) in developing a framework for studying African villages.

# 2 Social change theories: the dynamist approach

The dynamist approach, initiated by Georges Balandier, aims at understanding the dynamics of social structures as well as the systems of inter-relations that may exist among these structures (Balandier, 1970). As the pioneer in the studies of dynamics of structures, Balandier (2004) pointed out the need to consider communities through not just their internal dynamics but their external dynamics as well.

## 2.1 Balandier's approach

### 2.1.1 Understanding the dynamist approach as social change theory

Balandier (2004) has shown the importance of external and internal structures, and the inter-relations of these structures in every society. For Balandier (2004), earlier studies failed to understand social changes by ignoring the "external dynamics of societies while focusing on their internal" dynamics. Social dynamics have been ignored in social studies of "primitive" societies so that some aspects like acculturation, social changes and traditional society's internal and external dynam-

ics has been often dismissed. Balandier (1970) explained that societies without history do not exist and change is not only from internal actors but it also exists in each society's structures and dynamics: external and internal dynamics that interact. And social change is a result of the interaction between external and internal dynamics of each society. In the case of African communities, there is an important need to understand and identify the external social factors that may also affect community changes. The dynamist approach became a popular theory of social change, for the most part, in the post-colonial African studies (Nkwi, 2006).

### 2.1.2 Political spheres in developing countries: tradition and modern powers

Balandier (1970) framed political dimensions of developing countries, by inviting anthropologists and sociologists to go beyond viewing the world in terms of simplistic dichotomies. There is a need to understand the inter-relations between traditional and modern institutions among societies expressed through confrontations, mutations and adaptions. In so doing, Balandier (1970) defines political powers as inherent to each society, arising respect for rules and defending the society from its imperfections, limits and threats, as Douglas (2002) had shown it through the case of dirt. But in addition to this internal dynamic, Balandier (1970) stated that every society is in relation with those outside, whether they are considered as allies or threats. This external dimension is the motive for the society to organize its defense against threats, and exalt its unity. The internal dimensions of the power regulate norms of order in the society while the external determinants of the power strengthen internal cohesion, and define the relation with the outside. Unlike Douglas's largely internal vision of purity and danger, Balandier opens this beyond the immediate community to external forces that shape local through political powers and actions.

## 2.2 De Sardan: a local development approach

### 2.2.1 Characteristics of development in the local arena

After acquiring their independences, African states highly dependent on development aid, have seen new emerging actors in the form of development and governmental agencies, which have also been driven to the rural localities (Bierschenk, Chauveau, and De Sardan, 2002). States funds and the maintenance of national territories are mainly supported by bilateral or multilateral development aid from donors. This is a context in which rural communities are involved in a growing number of institutions aiming at territory administration, security and defense forces, and social services such as health services, land management offices, schools, environmental and agricultural offices. These representations of the states have been implemented in local arenas as major actors for development (Bierschenk, Chauveau, and De Sardan, 2002). However, the power of the state on rural communities can be weakened by local political actions. De Sardan (1991), studying

rural community's dynamics of social development, suggests that we consider development as an intervention by external actors, among them Non-Governmental Organizations and governmental agents, promoting models of "change" through bureaucratic logics in the local arena- a political arena where different ideologies, concepts, strategies and actors interact.

### 2.2.2 Role of Intermediaries or "development brokers

According to Bierschenk, Chauveau, and De Sardan (2002), from the colonial period up until today, mediators, also called development brokers, have played roles as key actors serving as intermediaries between the development institutions and the target African villages and communities. They are supposed to be the interface representing communities and expressing local population's needs to the development institution. Taking into account the external dynamics while studying rural communities in, or about, Africa is necessary to understand the current contradictions and collaborations in terms of external and internal dynamics, even within a single community.

Once the need to take into account the external factors and internal dimensions of dirt and clean defined by order, preservation of that certain order, and religious constraints (Douglas, 1975; Douglas, 2002) are all clarified, what would be the additional determinants that affecting hygiene and sanitation behaviours in rural Burkina Faso villages? Before addressing this question in a structured framework, behavioural approaches to public health will be examined to identify additional determinants of hygiene and sanitation in Africa.

## 3 Health behaviour change factors

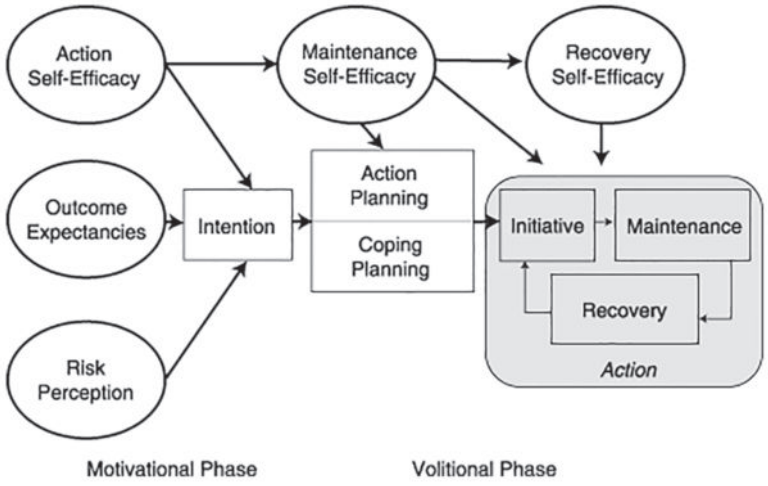
Beyond being a social and cultural concern, a lack of hygiene and sanitation practices accounts for the high prevalence of preventable diseases such as diarrhea in developing countries (Gleick, 2010; Montgomery, and Elimelech, 2007). Diarrhea is mainly fecal-oral transmission (Curtis, Cairncross, and Yonli, 2000). Improvement of household hygiene behaviours such as hand-washing after contact with stool (Contzen and Mosler, 2013) and safe disposal of stool is an effective way to prevent diarrhea (Curtis, Cairncross, and Yonli, 2000; Curtis, Schmidt, Luby, Florez, Touré, and Biran, 2011). The adoption and maintenance of hygienic behaviours is the main solution for reducing these threats (Contzen, and Mosler, 2013; Curtis, Cairncross, and Yonli, 2000; Curtis, Schmidt, Luby, Florez, Touré, and Biran, 2011). Hence, a wide variety of approaches in examining determinants of health behaviours emerged from behavioural studies and interventions of health, with well-defined variables and measurement scales (Glanz, Rimer, and Viswanath, 2008).

The following section explores the behavioral models of health practices to identify an integrated framework of the sociological and anthropological studies determinants presented in the previous sections.

## 3.1 Evidenced behaviour change models: HAPA and RANAS factors

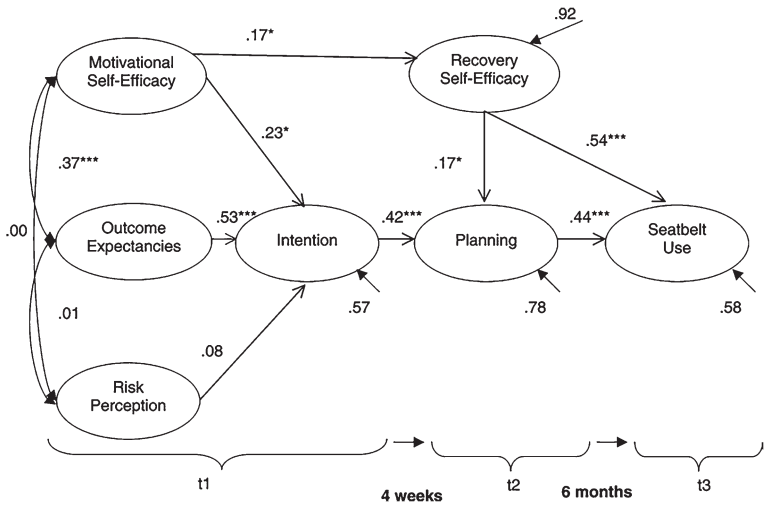
The health action process approach (HAPA), filling the gap between the intention to change and the actual behaviour, is the most promising model to date for exploring hygiene and sanitation behaviours.

Figure 1: HAPA structured model (source: Schwarzer, 2008: 6)




HAPA structured model has been used for studying adoption and maintenance of behaviours.

Figure 2: seat belt use study based on HAPA (source: Schwarzer, et al., 2007: 162)



Thus, based on HAPA, Mosler (2012) has developed the risks, attitudes, norms, ability and self-regulation (RANAS) model factors for hygiene and sanitation in developing countries (Inauen, Tobias, and Mosler, 2013). The RANAS model is a comprehensive model integrating the determinants of the main behavioural changes theories into five factors (Contzen and Mosler, 2013) as follow:

Table 1: Characteristics of RANAS factors (relatively to HAPA model)

| Factor | Items<br>Mosler (2012) and Contzen and Mosler (2013). | Difference with HAPA<br>Inauen, Tobias, and Mosler (2013) |
|---|---|---|
| **Risk** | Perceived susceptibility, perceived severity of contracting a disease, factual knowledge about the possibility of being affected by a potential contamination | In addition to the HAPA's risk perception, RANAS involves perceived severity and factual knowledge |
| **Attitude** | Instrumental beliefs about costs and benefits of the targeted behaviour, and affective beliefs. | RANAS differentiate attitude factors and norms instead of outcome expectancies of HAPA, and distinguish affective attitudes from instrumental attitudes and descriptive norms from injunctive norms |
| **Norms** | Social influences such as descriptive norms (behaviour typically performed by others), injunctive norms (behaviour typically approved or disapproved by others) and personal norms (personal standards about what should be done) | |
| **Ability** | People's perception to perform a behaviour (perceived behavioural control) and the confidence in one's ability to organize and manage the targeted behaviour (self-efficacy) | Same items as HAPA model, three scales of self-efficacy. |
| **Self-regulation** | Help to manage conflicting goals and distracting cues when intending to implement and maintain a certain behaviour | Same items as HAPA: action planning and coping planning |

Although it has been inspired by the HAPA model, RANAS redefined and extended dimensions of its constructs such as considering perceived severity and knowledge as a determinant for risk factors and separately considering attitudes and norms instead of using the broad concept of "outcome expectancies" of HAPA (Inauen, and Mosler, 2014)

## 3.2 Additional determinants from behavioural studies of health

### 3.2.1 Gender and child nurture

End users of hygiene and sanitation have different interests and resources that need to be identified for a better understanding the sector (Wijk-Sijbesma, 1998). Women are most likely to be in charge of activities related to hygiene and sanitation

(Brewster, Herrmann, Bleisch, and Pearl, 2006). A case study of five villages in Burkina Faso by Tearfund (2007) demonstrated that gender is an important component of culture of hygiene and sanitation. More recently, Corburn, and Hildebrand (2015) studied the implications of inadequate sanitation in Kenya and found that women are vulnerable to the outcomes of a lack of safe sanitation. More precisely, this study found for example that lack of school sanitation during the menstrual bleeding is a leading contributor to school absenteeism for girls trying to avoid the indignity of public bleeding, finding a private place to change a sanitary napkin, and ridicule by peers as the toilets are not separate facilities for boys and girls.

The presence of a child is a major determinant for hygiene and sanitation behaviours (Curtis, Danquah, and Aunger, 2009). Children's hygienic behaviours are influenced by women who serve as role models (Brewster, Herrmann, Bleisch, and Pearl, 2006) and attempt to preserve their children from illnesses (Curtis, Danquah, and Aunger, 2009). Nurturing is already implicated as one of the RANAS factors.

### 3.2.2 Trust

Some literature has clearly shown the importance of trust as a factor for the adoption and maintenance of health related behaviours in the target communities (Gilson, 2003; Gilson, Palmer, and Schneider, 2005; Goudge, and Gilson, 2005).

The trust factor can be measured with four variables: interpersonal trust (trust in a key informant), institutional trust (government, public and private institutions working on hygiene and sanitation), trust in the communication channel, and trust in the information offered. These variable constructs are based on similar previous studies, institutions and key informants (Gilson, 2003; Goudge, and Gilson, 2005), the target populations (Curtis, Danquah, and Aunger, 2009), and the importance of information and promotional communications channels in shaping behaviours (Contzen, and Mosler, 2013).

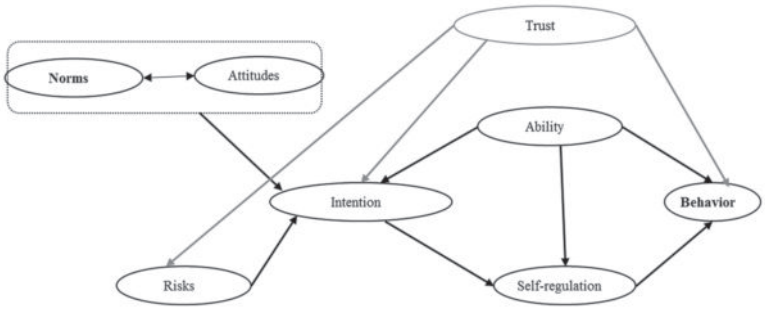
## 3.3 Summary and structured model design

In addition to variables such as aesthetics, conformity, fear and social status assumed by Douglas (2002), which are among items of RANAS factors model (Contzen, and Mosler, 2013), one must identify potential interaction with external actors to understand the adoption and maintenance of hygiene behaviors. These internal and external determinants interact through development brokers (Bierschenk, Chauveau, and De Sardan, 2002). That is how trust, as a factor describing inter-relations, cooperation or conflicts between various actors and strategies, can be an important determinant influencing the adoption of hygiene and sanitation behaviours.

Based on RANAS and trust factors, I propose a structured sociological model, which introduce trust as an additional factor in causal relationships with RANAS determinants. Trust factors here reveal the interrelationships between the promotor of the behavioral changes and the target populations. Li, Guo, and Ito (2014) have

shown the importance of trust in risk perception in a hypothesized structure from a social-cognitive perspective.

■Figure 3: structure model (by author)




This framework integrates gender and religion mentioned as determinants of hygienic behaviours in the previous sections of this part, as part of the socio-demographic variables for studying the adoption and maintenance of hygiene behaviours.

## Conclusion

Balandier's theory of social change (Balandier, 2004) has exposed flaws in Douglass's largely community internal model of purity and danger and has shown the importance of both internal and external factors in the understanding of people's behaviours in African villages. Based on this concept, I have designed a framework for integrating determinants of taboo theory (2002) covered by RANAS factors and trust as the interaction with external factors of rural communities. This model include trust as an external factor influencing risk factors meanwhile serving as mediator between intention and actual behaviours. To verify this model, I will collect data on changes of hygienic behaviours in villages of Burkina Faso through a survey using a questionnaire. Although this study would not cover all existing approaches pointed out, it may bring further insights enriching the adoption and maintenance of more hygienic behaviours in rural Burkina Faso.

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