

## Review

# The value of Asian - Africa collaboration in food and health security

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Challenges for food and health security encompass food production and distribution, smallholder income generation, access to health care, harmful child care practices and epidemics (e.g. HIV), and tackling of the coexistence of undernutrition and caloric over-nutrition. The recently re-defined primary health care approach addresses the whole field of nutrition and health security. In general, Asia has more experience with technologies in various fields than Africa. But Africa has more experience in humanitarian approaches to emerging food and health crises. Objectives of the Asian-African collaboration need to be differentiated into one area where the public sector is developing and strengthened, and another area where the private sector can promote food and health security with its specific advantages and constraints. In the field of hunger and disease prevention, both sides can benefit from the exchange of knowledge and concepts. Whereas in the Western world drugs and technologies became major factors in health care and food production, the potential of Asia and Africa lies in optimizing the utilization of indigenous plants and protecting the biodiversity of the natural resources. As an example, the vegetable bitter melon is presented: it can be grown almost everywhere and it exerts anti-obese and anti-diabetic effects. This is of extreme importance for those who do not have access to modern drug treatment for diabetes mellitus. Asian-African collaboration in food and health security provides a great opportunity as both sides can benefit from different experiences and opportunities in order to meet the challenges in food and health security.

**Key Words:** nutrition security, primary health care, caloric overnutrition, natural biodiversity

## INTRODUCTION

In the 21<sup>st</sup> century almost all countries around the world share some challenges with regard to food and health security. Whereas in many countries undernutrition still exists, while in others diseases due caloric over-nutrition pose huge problems for the health sector. Most countries lie in between the two extremes, facing both types of problems to a greater or lesser extent. This observation holds true for Asia as well as for Africa; and as modern food and health technologies are globally known and available, the situation that affects populations and sub-populations becomes rather a matter of access than of availability. The scheme presented in Figure 1 dates back to the early ninetieths of the 20<sup>th</sup> century; the presented modified diagram shows quite well the complex determination of nutrition security.

Different factors impact on nutrition as well as on health security, and have different effects depending on local, regional and national nutrition and health security.\* Therefore, it is not a matter of the simple transfer of one technology from Asia to Africa, but challenges need to be examined and the choice of technology must depend on its capacity to solve the problem and on its prerequisites, e.g. costs implied, infrastructure, policies, education level, technologies and others.

## CHALLENGES TO FOOD AND HEALTH SECURITY IN AFRICA AND ASIA

For comparison between health and nutrition challenges in different Asian and African countries some data have

been selected from the list of most recent data in the WHO statistical data base (WHOSIS).<sup>1</sup> Reported mean life expectancy at birth in Kenya, Tanzania, Uganda and Ethiopia were found to be lower (42-50 years) than Cameroon, Benin, Mali, Niger, and Angola; the latter reporting data in the same magnitude as the Asian countries where life expectancy at birth ranges between 63 and 72 years. Looking at mean infant mortality rates (IMR) on the other hand, the Asian countries perform much better than the African countries with rates between 7 and 57 per 1,000 live births. The IMR in the selected African countries vary from 74 to 154 per 1,000 live births (Figure 2).

These figures seem to indicate a slow rate with regard to population growth with small increments in life expectancy by time, and small decreases in neonatal and infant

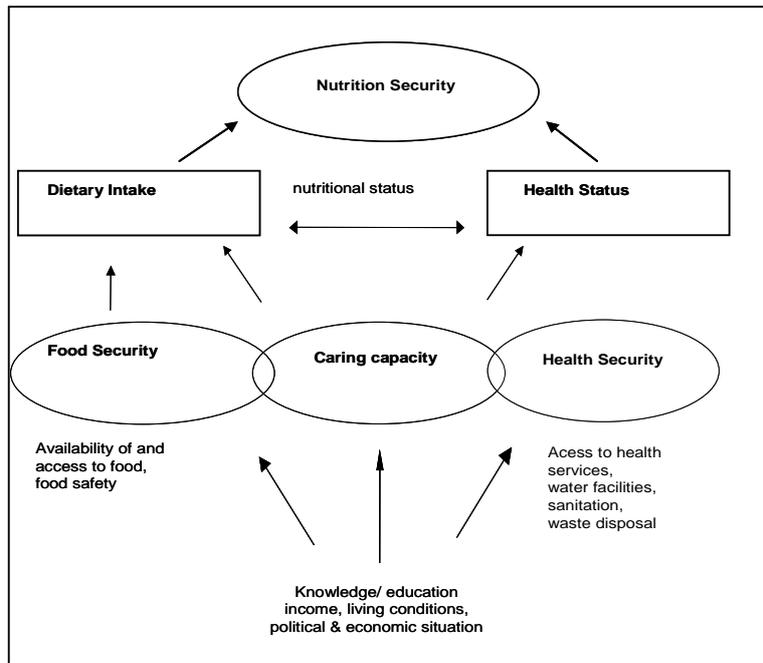
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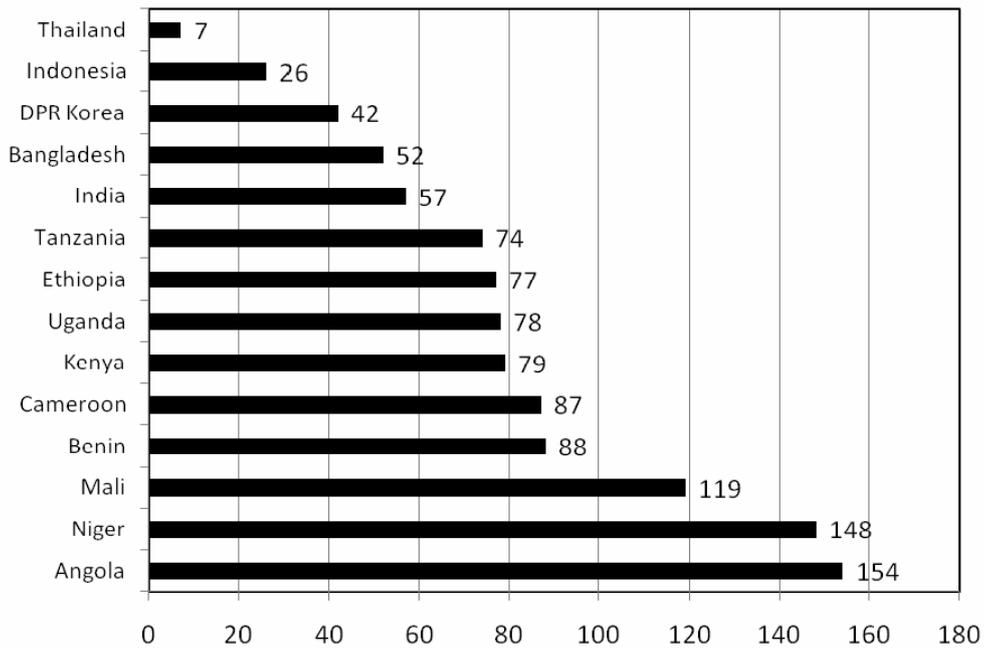
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\*Definitions used in this paper: nutrition security refers to the functioning of the whole system of underlying and immediate factors of nutrition, food security refers to the quantitative availability of food and 'food safety, the safe quality of food.



**Figure 1.** Conceptual model of nutrition security (modified after the UNICEF-model of immediate and underlying causes of childhood malnutrition)

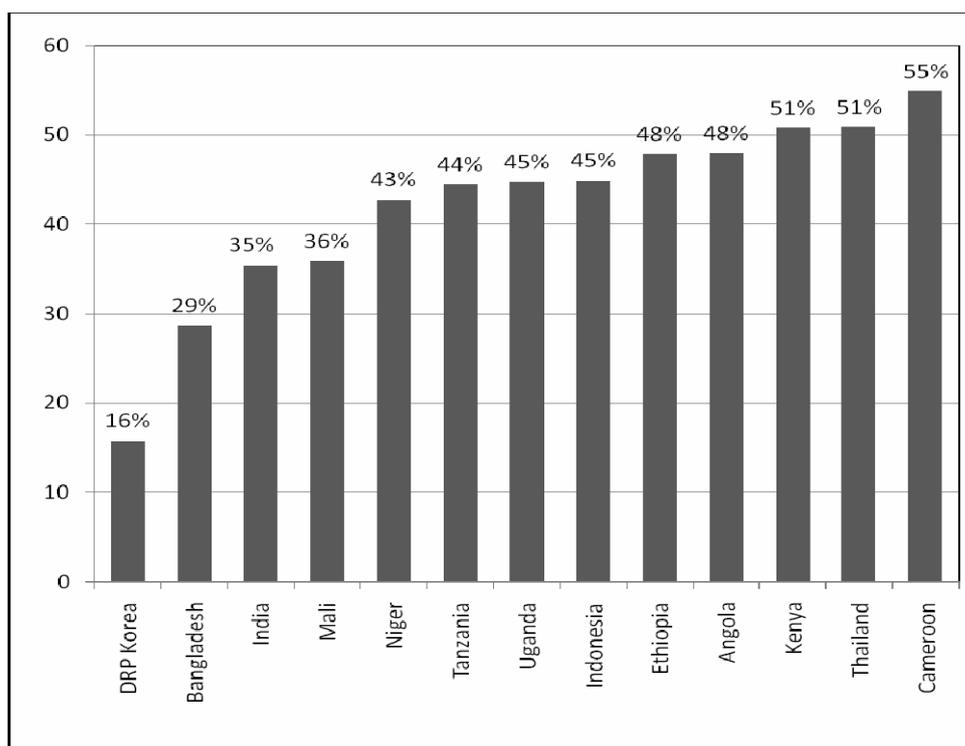


**Figure 2.** Infant mortality rates per 1,000 live births in selected African and Asian countries (most recent data. (WHOSIS 2009)

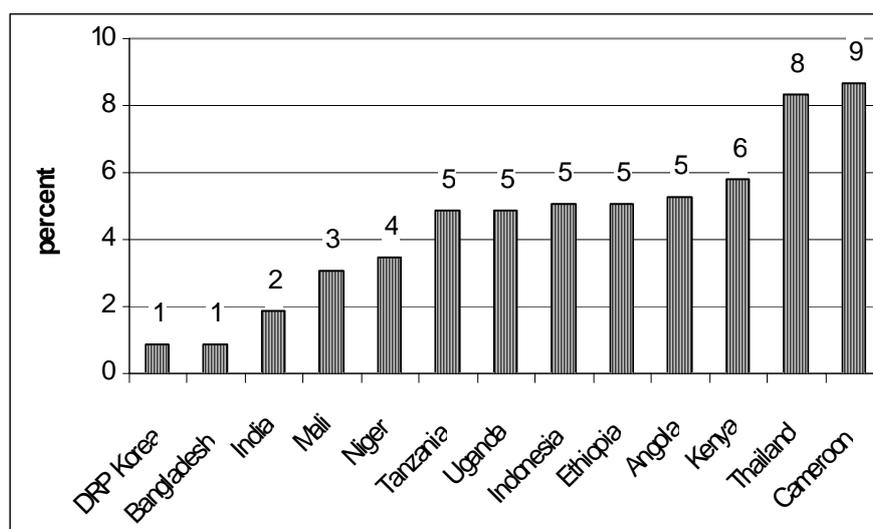
mortality rates. But, demographic projections still indicate a population growth higher than the increments in local food production. Such projections are to be questioned when experience is taken into account: where the infant mortality rate declines, the birth rate follows shortly.<sup>2</sup> A certain time lag has been declared a problem, but in the long run population growth follows development and improvement of living conditions. Still, local food production and access to health services need to be improved in order to achieve this goal.

Whereas access to sustainable and clean drinking water sources is reported, in the selected Asian countries, by

80 to 100% for the total (urban and rural) population; the above mentioned African countries reported rates of 42 to 70%. The urban/rural discrepancy is highest in Niger and Ethiopia and lowest in India and Thailand according to the WHO-database. Regarding access to improved sanitation, the picture is very much the same as that for the drinking water sources, but the urban/rural differences are even higher: in Niger the figure for urban areas is 9 times higher than that for the rural, followed by Benin (5.4 times) and Angola (4.9 times). The highest urban/rural discrepancy in Asia was reported from India with a factor of 2.9.



**Figure 3.** Rates of stunted children under five years of age in selected African and Asian countries, (most recent data, WHOSIS)



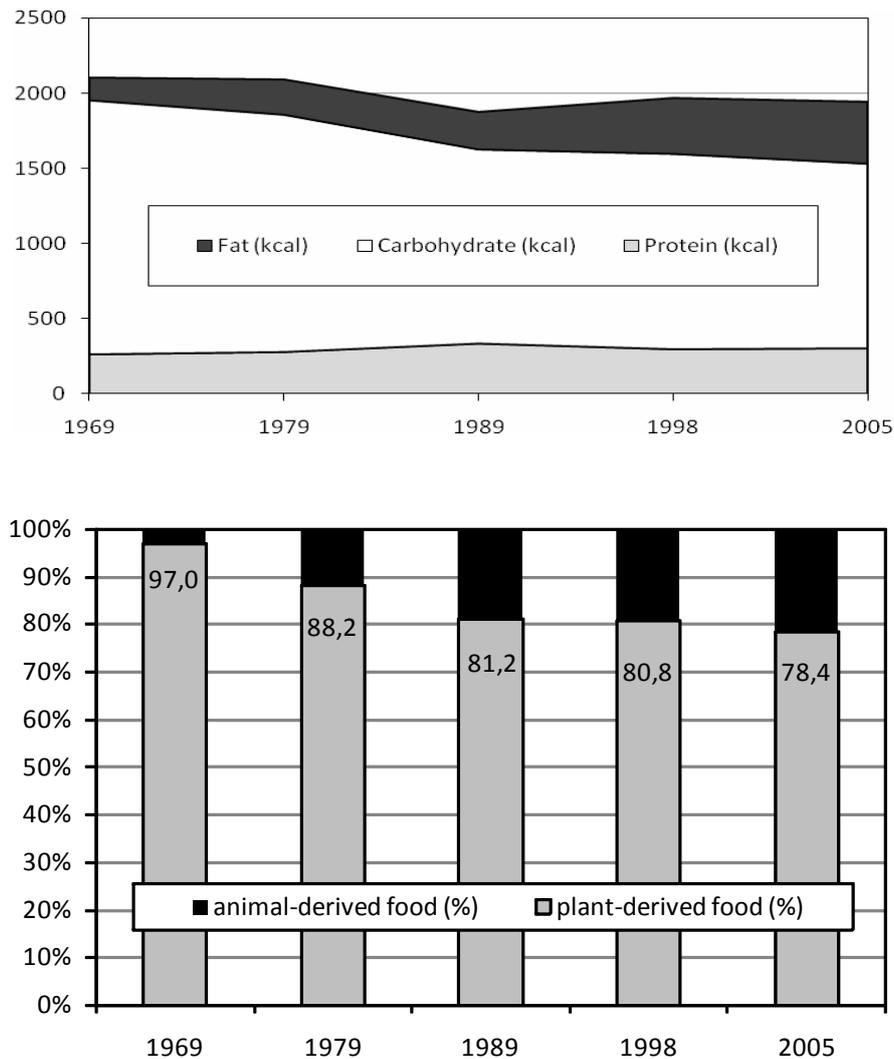
**Figure 4.** Rates of overweight children under five years of age in selected African and Asian countries, (most recent data, WHOSIS)

Regarding the prevalence of low birth weight babies, Bangladesh and India report higher rates than even Mali and all other African and Asian countries. Here, an exchange of experience and concepts in the prevention of diseases and undernutrition in pregnant women is definitely desirable. Regarding stunting of children under five years of age, lowest rates were reported from Thailand (16%) and Indonesia (29%) whereas Angola (51%) and Niger (55%) have the highest rates. India and Bangladesh are in the higher range too with about 48% (Figure 3).

An interesting picture is to be seen with regard to overweight children under five in Asia and Africa. Referring to the selected countries as example of those with

greatest health and nutrition problems, the lowest range were from: the DRP Korea, Bangladesh and India, and the highest from Kenya, Thailand and Cameroon (Figure 4).

The data illustrate that some challenges for food and health insecurity are shared by Asian and African countries, while others differ greatly. But it is not just the challenges that differ, but also the resources. Climate and soil, access to technology, human qualification and labor in India, Indonesia, Bangladesh and the DRP Korea can hardly be compared with the same aspects in Angola, Ethiopia, Kenya, Mali, Tanzania and Uganda. Within Asia as well as Africa, there are more technologically advanced, as well as more under-developed countries.



**Figure 5.** Changing sources of food energy in South Korea <sup>4,5</sup>

This diversity also affects the phenomenon of ‘nutrition transition’ referring to a change from more traditional ways of eating – often associated with restricted food and energy intake as well as periods of undernutrition – towards a Westernized eating pattern with more animal derived fat and protein as well as high caloric beverages.

Data from Southern Korea indicate very clearly such a trend from a full vegetarian to more than 20% of calories derived from animals, and from higher carbohydrate intake to higher fat intake (Figure 5).<sup>3,4</sup>

This trend also affects African countries, as can be shown in Tanzania where currently more than 20 percent of women are overweight and obese, even in rural areas.<sup>15</sup> Urbanization is another aspect posing an additional challenge to the food and health systems in both continents. Population forecasts predict further growth in terms of the number of people living in cities in Asia (more than 800 mio) and in Africa (more than 300 mio) (UNFPA 2007).<sup>5</sup> Fourteen of the 25 biggest cities in the world are in Asia, one (Cairo) in Africa.<sup>6</sup>

Finally, in both continents the age pyramid of the populations shifts from a younger towards an ageing population: between the year 2000 and 2050 people at age 60

years can expect a 22% increase in life expectancy, and this holds true for people at age 80 years. This trend does not just mean that people are going to live longer but higher age is associated with higher prevalence of degenerative and chronic diseases as well as the occurrence of malignancies.

#### **RESOURCES FOR FOOD AND HEALTH SECURITY IN AFRICA AND ASIA**

The big question regarding the mentioned challenges is about resources. There are a number of resources from inside Asia and Africa and from the Western world, as well as Australia, and Japan. The resource transfers into developing regions of Asia and Africa is a topic for economists and politicians, and will not be dealt with here. Another restriction is the fact that in this overview various resources in terms of people, climate, soil, and biodiversity cannot be discussed in detail. But there are a couple of options on how to make optimal use of the resources available, and there is a number of opportunities and of constraints to be aware of.

The first point holds true all over the world and is a quite general remark. The full exploitation of own re-

sources requires control; and control means the existence of democratic and participatory political structures preventing growing inequalities with subsequent unrest, turmoil, civil war and other forms of collapse of civil governance and administration. Without good governance it is always a minority benefiting and a majority suffering constraints in food and health, as well as perspective in general.

The second point is that there is 'no free lunch' as some economists said. Everybody and every country that receives something for free is going to pay a price for it – now or later but usually this is inevitable. This observation leads to a high appreciation of the above mentioned own resources: to get help is nice, but to solve problems on ones own is a much stronger basis for development. Politically, this approach can be observed by looking at the coordinated action of the group of developing countries in the World Trade Organization and other multinational institutions.

Third, Asian populations nowadays are much more proud of their indigenous physical and cultural resources than many African populations. This may still be a late consequence of the European colonialism which was much more suppressive in Africa compared to Asia. Therefore, African countries can benefit very much from the way Asian societies look at their natural and cultural resources and benefit from their self esteem.

Fourth, with regard to food this cultural difference also encompasses the notion of indigenous foods, especially fruits, vegetables, fish, and nuts. Globalization has opened the markets worldwide for processed food from industrial countries. Supermarkets and 'fast food'-restaurants have spread everywhere.<sup>7,8</sup> And for most people changing their eating behaviour means changing their perception of their own life: they feel like becoming a part of a different world with a better quality of life.

Asian – Africa collaboration may facilitate to overcome the very common feeling of resignation in the lower socioeconomic groups in both continents. Joining hands also strengthens the position in terms of political and economic negotiations between the more and the less industrialised countries.

Fifth, one field for very effective collaboration between the civil society of Asian and African countries is consumer protection. The global network *Consumers International (CI)* aims for a world where every country has comprehensive consumer protection laws and market regulation effectively enforced; universal consumer education; and an independent consumer organisation, able to represent consumer interests to policy and decision makers.<sup>9</sup> Currently it has many more national members in Asia than in Africa, but food safety regulations to protect especially the poor are very much needed in both continents.

Sixth, the important role of vegetables in traditional Asian diets is a unique opportunity to provide populations with fibre, vitamins and bioactive plant components. Whilst in African diets, a staple and – if available – meat, poultry, and fish form the basis of a normal diet. Common vegetarianism in Asian traditional diets can contribute to the prevention of obesity and its related diseases, e.g. cardiovascular disease, diabetes type II, and several ma-

lignant diseases. Even in areas where there is a rapid increase in terms of the incidence of diabetes type II, the consumption of some vegetables exerts preventive and even – to a certain extent – curative effects. An example of such a vegetable consumed by Asians all over the world is bitter gourd (bitter melon; *Momordica charantia*). It has proven hypoglycaemic activity, and may be the only therapy for many diabetics without access to anti-diabetic drugs and insulin.<sup>10</sup>

The HIV epidemic has affected Africa much longer than Asia. Nevertheless, important experiences in terms of prevention and management have been recognized in Asian countries, like Thailand, as well as in Africa, e.g. Uganda, Tanzania, South Africa and others. UNAIDS has published an important series of best practices from various countries and programmes worthy of consultation for the management of this enormous threat, not only to the healthcare systems but to the society as whole.<sup>11</sup> The problem of HIV spreading in poor populations is not just ignorance and a challenge for the health system, but affects all sectors of the society, and besides enormous suffering, the agricultural as well as the industrial sector face such big problems that even private companies pay for the diagnosis and treatment of their employees and their families in South Africa. Food production almost collapses in the most HIV-affected areas where the most productive farmers and laborers get infected and die due to illness. To avoid such a development especially in South Asia, much can be gained from experiences in Southern Africa.

The very principal concept of 'primary health care (PHC)' has been accepted by the World Health Assembly in Alma Ata, Asia in 1978.<sup>12</sup> It has influenced health care systems in many ways, one of them being the 'barangay' system of integrated village development in the Philippines.<sup>13</sup> Its principles, unfortunately, have been overruled often by lack of participation and by the intervention of governmental and non-governmental aid organisations. Most PHC-programmes have been seriously underfunded, and only in recent years has the Global Fund against AIDS, Tuberculosis and Malaria started to fund more systematic approaches to health care.<sup>14</sup>

## CONCLUSIONS

Africa and Asia can benefit enormously from cooperation in the field of food and health security. Much will depend on the development of joint standpoints of governments of developing countries in both Asia and Africa for international negotiations. In addition to this, much will also depend on networking of civil society from both continents, e.g. Consumers International, and People's Health Movement.<sup>14</sup> With regard to the rich biodiversity of food plants in Asia and Africa, societies in both continents have the potential to develop eating habits in order to maintain good health up to old age, thereby minimizing the need for specific health care.

## AUTHOR DISCLOSURES

The Author declares that he has no conflict of interest.

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## 亞洲—非洲合作同盟在糧食及衛生安全的價值

糧食及衛生安全的挑戰包括：糧食生產與分配、小農的營收、健康照護的使用、有害的兒童照護施為及流行病(例如：人體免疫缺陷病毒)，以及應付營養不良和熱量營養過剩共存的情況。對初級健康照護的最新定義是涵蓋全方位的營養及衛生安全範圍。一般而言，亞洲比起非洲在多種領域的科技擁有較多的經驗，但是非洲對於緊急的糧食和衛生危機的人道救援則有較多的經驗。亞洲—非洲合作同盟的目標需要區分成兩方面，一方面由公共部門開展及增強合作，另一方面民間團體用它們獨特的優勢及制約來促進糧食及衛生安全。在飢荒及疾病預防的領域中，知識及觀念的交流有益於兩方。當西方世界的藥物和科技成為健康照護及糧食生產的主要因素之際，亞洲及非洲的潛能則在於適當地利用原生種植物及保護自然資源的多樣性。例如：苦瓜即是一個代表，它幾乎可生長於任何地方，而且它被運用於減肥及降糖尿。這對於那些無法得到現代醫藥治療的糖尿病患者而言，是相當重要的。為了面對糧食及衛生安全性的挑戰，亞非合作同盟提供一個良好的機會，使雙方皆可由不同的經驗及機會中獲得益處。

**關鍵字：**營養安全性、初級健康照護、熱量營養過剩、自然生物多樣性