



URBAN ASSESSMENT ON FOOD SECURITY

RAWALPINDI CITY DISTRICT



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1. BACKGROUND TO THE PRESENT ASSESSMENT

Components of food and nutrition insecurity are broadly different in urban and rural areas. The paradox in urban context is indeed the achievement of food sufficiency at macro level along with persisting malnutrition. Access to food relies quasi exclusively on market and is thus highly income dependent. Urban livelihood is as such integrated into a much more complex system confronted to multiple external interferences. Self reliance on its own production for food consumption is not realistic in urban context, meaning that people are anyhow highly dependant on external decisions and fluctuations.

Other specificity of urban context compared to rural areas is related to the wide heterogeneity of wealth and living conditions within the population. Although global wealth is undoubtedly greater in cities, research by IFPRI demonstrated that socio-economic intra-urban differentials are much higher than intra-rural differentials. Mechanisms that lessen inequities in rural areas, such as community or familial solidarity, may dysfunction in urban context where collective interest is probably less predominant. Beyond community or household affiliation, exogenous social systems are however intended to alleviate poverty in urban context. Studying livelihoods security in towns then implies analyzing safety nets and social networks. It will also require to deeply understanding what makes some urban households poor.

Poverty in Pakistan is far being only income-related as social identity (gender, caste, religion, and ethnicity) plays a crucial role in peoples' exclusion and participates to the perpetuation of inequities by hampering social mobility. Both income and social affiliation are strongly intricate and cannot be dissociated in the analysis of poverty in rural or urban areas. It is worth underlying that several research studies have been already carried out in Pakistan providing accurate analysis on social exclusion and are to be used as an entry point to the present assessment. Participatory Poverty Assessments (PPAs) undertake throughout the country thus identified the *very poor* such as:

- The landless;
- Widows, especially with dependent and no support;
- Young women;
- Household without or with few male children;
- People from low castes;
- Those without access to health or education;
- Those dependent on *zakat*;
- Those without power, influence or voice in decision-making

An economic-based assessment without an understanding of the structure of the society and of access to rights would undoubtedly compromise analysis of the poverty in Rawalpindi and consequently recommendations.

The food security assessment is to be conducted in close relation with the nutrition/medical component and if need be, with the water & sanitation expertise. The Malnutrition Causal Analysis approach constitutes the conceptual framework for the general assessment. A holistic approach highlighting interrelations and dynamics is then to constitute the core of the methodology. The combination of those following components may indeed impact on living conditions and consequently on nutrition security in urban context:

- Access to health care
- Access to safe drinking water
- Access to sanitation
- Access to education
- Access to secure tenure
- Conditions of housing

- Access to sustainable income (including social transfers)
- Access to social networks
- Migrations (internal and international)

FOOD SECURITY METHODOLOGY [First step]

As long as food availability is clearly not an issue in urban context, an initial stage will be to identify the determinants of food and nutrition insecurity and then to put emphasis on categories with lower resilience towards adverse shocks.

The initial step of the Food security and Nutrition assessment will then be dedicated to desk review of existing information related to Rawalpindi and more generally to urban context. A preliminary analysis is to emerge from existing literature (reports, articles, research...), meetings with main stakeholders, discussions with AAH team, maps, and rapid visits *in situ*. First outputs and trends will help the preparation of the field assessment as it will offer an overview of the *macro* situation and a specific emphasis on interrelations. The selection of 4 Union Councils based on key indicators is also an expected outcome of this first step.

SELECTION OF UCS

Rawalpindi city district is composed with 8 towns (*tehsil*). Decision was taken to only concentrate the joint food security and nutrition assessment on Rawal city as problematic is there more urban-related. Other towns are less urbanized and were considered in the 1998 population census as ‘*rural*’ areas. Rawal city is divided into 46 Union councils (out of 175 UC for the whole district) sharing main constraints (transportation, water & sanitation, density...) although with different intensity. Out of these 46 UC, 4 were identified for an in-depth assessment [nutrition survey + household questionnaires]: **Dhoke Hassu North** (UC 4), **Pir Wadhi** (UC 7), **Fauji Colony** (UC 8) and **Mohallah Eid Gah** (UC 16). Different indicators were analyzed for the selection of UCs such as Density, Minorities, Secure tenure, Conditions of housing, Water & Sanitation, Natural disaster, Market, Sustainable employment, Morbidity and Under 5 mortality. Difficulties to systematically address those indicators during interviews made comparisons between UCs in somehow hazardous. Finding stakeholders with a comprehensive knowledge of Rawal city was challenging as national ngos or local authorities may have good understanding of the situation in the areas they are operational but not of Rawal as a whole. Governmental authorities, in the other side, may have proper knowledge of Rawal city in general, but unable to raise specific problematic. As such, the frame was more used as a guideline, keeping in mind that those indicators constitute probably the main risks for food, nutrition or health insecurity.

Presence of *slum* in Rawalpindi is arguable in regard with the definition of UN-Habitat: “A *slum* is a contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services. A *slum* is often not recognized and addressed by the public authorities as an integral or equal part of the city. 5 major components are considered: Insecurity residential status, Inadequate access to safe water, Inadequate access to sanitation and other infrastructure, Poor structural quality of housing, Overcrowding”.

It is also worth indicating that some of those indicators were not decisive in this specific context of Rawalpindi:

- ⇒ **Secure tenure**, for instance, is apparently not anymore a serious issue at macro level, as *katchi abadis* (illegal settlements) have been systematically regularized (or destroyed) in the two last

decades. There is as such no risk of eviction, except for Afghan refugees settled in a slum in the vicinity of Rawalpindi (located on the territory of Islamabad). They were given a 2 months-notice to return to Afghanistan..., but will most probably move to NWFP and possibly to Rawalpindi. As far as the residents are concerned, decision of eviction of part of the population living along *Lai Nulla River* is not yet clear. Project of highway crossing the central city is still pending and could result into a massive eviction. Objectives are double: 1) to decongestion the central city as traffic jam is a serious constraint in Rawalpindi; 2) to protect river banks against flooding and limit risks of natural disasters (huge flooding of 2001 remains a trauma throughout the city).

Although not significant at a macro level for the selection of UC, *secure tenure* may be a so-called **idiosyncratic factor**¹, meaning a factor that affects an individual household and not a whole community. Deprivation of land or housing ownership highly increases risks of eviction and consequently households' vulnerability to food security. It will thus require to be further studied at household level through questionnaires.

- ⇒ **Conditions of housing:** There were no significant differences in housing conditions, from an outside outlook, between the various Union Councils. Most of houses are nowadays concrete-made (96% of houses according to 1998 Population census), although it is said that a certain number of 'temporary' houses dispersed throughout the city are still remaining. The large majority of houses are supplied with tap water and sanitary facilities (92% of households are equipped with tap water - 1998). Home visits will offer additional information on the living conditions of the population and put the emphasis on the major constraints.

Housing conditions did not help in the selection of UCs, but housing rent may definitively be used as an indicator of socio-economic vulnerability. Union councils located in the North of Rawalpindi (at the border with Islamabad) are said to offer the lowest housing rent, further attracting low-income dwellers. Due to the demographic pressure, housing rent has dramatically increased these last decades throughout the city and notably in the centre (commercial zone) constraining the poorest to move out. Sharing its dwelling unit with one or two other households to mitigate housing rent is also said to be a common practice.

- ⇒ **Market:** Access to market places is clearly not an issue in Rawalpindi as small scale markets or shops are widespread throughout the city. There are also large market places for foodstuff in central city and in the periphery. It is thus highly unlikely that access to market places plays a role in the aggravation of food or nutrition security.
- ⇒ **Morbidity and Under 5 mortality:** Data on epidemiology have not been collected in this initial step. Analysis on morbidity and mortality will be part of the Nutrition survey.

Indicators that played a decisive role in the selection of UC are as follows:

- ⇒ **Density:** One of the specificities of Rawal city is its high density compared to other towns of Rawalpindi district. Influx of populations may definitively adversely affect dwellers' living conditions and increase exposure to environmental hazards if not accompanied by the correlated development of basic services and infrastructures. UCs located in the North of Rawal city [UC from 1 to 9] had in the recent past to face an increase of their population as a consequence of the arrival of IDPs from NWFP and Kashmir and also of Afghan refugees (following their eviction from a nearby camp in 2005). Despite the continuous raise of housing

¹ *Mutangadura and Makaudze, 1999*

rent, Northern UCs remains the most attractive for the lowest income. Accommodation in Islamabad or increasingly in central Rawalpindi is not affordable for households relying on daily wages.

- ⇒ **Water & Sanitation:** As above mentioned, water & sanitation has been unanimously mentioned as being the main concern of the dwellers of Rawalpindi. The water supply system has been introduced in some parts of Rawalpindi in 1926 and the sewerage system in 1953. Water network obviously suffers nowadays from the lack of maintenance displayed by many leakages all through the system. Poor conditions of pipes do not only lead to waste but also to contaminated water. Water pipes are often mixed up with sewerage canal (open drains) further increasing risks of bacteriological contaminations. No proper waste management (industries, hospitals or domestic) also contributes to deteriorate the water quality. ADB-2003 “*Water quality analyses done in 2002 showed that 85 % of water samples analyzed for physical, chemical and bacteriological parameters were found unsafe for human consumption due to bacterial contamination*”².

As far as water is concerned, quality is clearly the issue as almost every house is now equipped with water tap. Supply of water is said to have improved these last years thanks to the completion in 2003 of a large project funded by ADB. The project contributed, according to ADB, to the rehabilitation and extension of the water supply network, resulting in an increased water supply of about 34% (from 192,000 m3 per day to 256,000 m3). Pipelines connected to *Khanpur* dam have been installed in 2002 to overcome water shortage in Rawalpindi. The city is now supplied with 3 different sources: groundwater, surface water from *Rawal Lake* Filtration Plant and surface water from *Khanpur* dam. In UC located in Northern Rawal city, it has been clearly stated by local authorities that access to water significantly improved these 5 last years thanks to the connection to *Khanpur* dam. Due to the inefficiency of the whole system and of the unequal distribution, dwellers are however only supplied two hours a day in average.

Quality remains however an issue. Second loan of ADB aims at improving the sewerage system as it only serves about 30% of the population. Objective is to reach 70% at the end of the project. 30% of the population will then remain with an inappropriate system, that discharges through pipes or open canal directly in *Lai Nulla* River or into the nearest drain. According to WASA [Water and Sanitation Agency], technical reasons impede the extension of the system to the whole population. Some detractors evoked lack of bargaining power of some social groups as criteria of exclusion from the project. It is however still unclear whether Northern Union Councils are fully included in the program of improvement of sewerage system.

- ⇒ **Minorities:** Union Councils from 1 to 9 are mainly inhabited by IDPs or Afghan Refugees. Reasons for their establishment there are various: housing rent, livelihood opportunities (vicinity of the main vegetable / fruit markets, factories, railways and bus stations), eviction from the nearby *katchi abadi* in 2005...

In UC 16, more than one third of the population is Christian and faces socio-economic difficulties due to religious discrimination. Living conditions, although said to have improved these last years, and access to sustainable livelihoods are more challenging. Christians are

² ADB, “*Technical assistance to the Islamic Republic of Pakistan for preparing the Rawalpindi environment improvement project*” – April 2003

often dedicated to street sanitary jobs (street sweepers...) as lower castes and are as such economically disadvantaged.

- ⇒ **Sustainable employment:** Access to sustainable employment is one of the critical indicators for measuring urban poverty as people mainly rely on market economy for the achievement of their basic needs (accommodation, food, health, education, transport...). Daily labor is *per se* unpredictable in terms of monthly wages and security of employment which could be further exacerbated by a sudden population growth as it leads to an increased competition. Health status plays also a crucial role in livelihoods' stability as any disease episode may result into a decreased work attendance and then adversely impact on households' income. Rawalpindi offers a large range of Governmental employments [Army, Civil and Military Airports, Administration, Universities...] but large segment of the population is deprived from the access to such jobs (Education, gender, status, caste, religion...). Peoples' economic activities in the Northern UCs are mainly daily labor (wholesale or retail trade, driver, workshop...). Child labor is also common (garbage collection, workshop, market...) as it brings substantial income to the most destitute households. Drugs addiction amongst those children and/or their parents has often been mentioned as a serious issue.
- ⇒ **Natural disasters:** Main natural risk is related to flooding as a river crosses the city from Eastern-North to Western-South. Heavy rains that frequently occurred throughout the monsoon season constitute a critical risk for settlements along the river. They are indeed highly exposed to water floods as tragically illustrated in 2001. In the *Lai Nullah* area, a total of 19 floods have been registered for the period 1944 to 2002, meaning more or less 1 flood every three years. 2001 remains however the largest devastating flooding among recorded events.

Some parts of UC 16 are particularly exposed to such a risk as located nearby the river and at low level. Floods were particularly disastrous in 2001 as water reached in some occasion the third floor of the buildings located in the Christian ward of UC 16. Some sections of Dhoke Hassu, Fauji Colony and Pir Wadhi are also highly exposed to flooding.

Discussions with stakeholders have systematically pointed out Union Councils 1 to 10 as being the less secure in terms of water & sanitation, livelihoods and health. Reasons evoked were a mix of the above described indicators.

RATIONALE FOR THE REVISION OF THE JOINT ASSESSMENT³

As far as understood, initial objective of the joint Food security and Nutrition assessment in Rawalpindi was to evaluate the nutritional situation and to determine whether it was relevant to implement programs tackling acute malnutrition. Assumption that SFCs might be appropriate stemmed from secondary information asserting malnutrition cases in Rawalpindi. A technical assessment was thus requested to validate or invalidate the latter assumption and to elaborate recommendations.

Preliminary information has been collected since April to highlight the main features and problematic of Rawalpindi city district. Relying on this information, on discussions with various stakeholders (national authorities, WFP/VAM, UNICEF, local ngos...) and on 'field' visits, it can be now assumed that acute malnutrition is not a major issue in Rawalpindi, as more generally in Pakistan. It has been

³ *Following the preliminary findings of the first step, it was decided to adjust the methodology for the present assessment*

indeed stated by different agencies and research reports that chronic malnutrition is in somehow endemic in the country, especially in rural areas, but that acute malnutrition always remains at low level (even in camps or in earthquake-affected areas). Besides chronic malnutrition, micronutrients deficiencies are another form of malnutrition that prevails in Pakistan. It is worth underlying that a national scale program has been initiated under the auspice of the Government, UNICEF and Micronutrients Initiatives to tackle problems of micronutrient deficiencies.

At this stage, main concerns emphasized by interviewed people were unanimously water & sanitation-related. Water and sewerage systems remained the same since their installation (meaning in some cases since 1947). Lack of rehabilitation and maintenance easily explain the poor conditions of the whole system and its inappropriateness to an increased population. Disease outbreak (hepatitis, diarrhea, scabies...) linked to bad quality of water and of sanitation have been frequently evoked during interviews. On macro level, water and sanitation is thus undoubtedly the main concern of the population as it is throughout the country, implying that water-borne diseases might be a critical factor for malnutrition in Rawalpindi (if malnutrition be). It is worth insisting however that whereas many regions in Pakistan face increasing water scarcity, problematic in Rawalpindi remains clearly related to water quality and sanitation.

This initial step was also to help identifying UCs for an in-depth evaluation as it was admitted that the field assessment could not be extensive. This selection is almost accomplished now using criteria list that was initially prepared. Following step will be conducted at micro-level. It is then time to question objectives and consequently methodology of the 'field' assessment, based on the assumption that acute malnutrition appears to be highly hypothetical.

As time is one of the constraining factors for this assessment, three options may be considered:

Option 1: Main objective remains to evaluate rates of acute and chronic malnutrition respecting ACF's methodology for nutrition survey (clusters). Results will determine whether acute malnutrition is really an issue and following those findings, decision to develop activities in Rawalpindi will be taken. Such an approach will offer an accurate picture of the nutritional situation but not a clear understanding of the dynamics. Decision to implement activities will be here closely linked to the already visible symptoms of malnutrition but not to the risk factors that might lead to a deterioration of children's health status⁴.

Option 2: Main objective is here more public health-related, meaning that in addition to nutritional data, information on morbidity, health access and possible social discriminations will be analyzed. Due to time constraints, such an approach will imply to reduce the sample of children surveyed affecting the statistic significance as it is clearly not realistic to combine a 'standard' nutrition survey with a comprehensive evaluation of health situation (morbidity, access, national policy...).

Option 3: Main objective remains to estimate rates of acute malnutrition respecting ACF's standard in conjunction with a basic collection of morbidity data and a short analysis of health system in Rawalpindi. This approach will offer reliable nutrition data and an emphasis on some of the health features. In case problems are more public health-related, it will however probably require an additional in-depth assessment on the main pre-identified issues.

⁴ *As far as the Nutrition survey is concerned, as the Food security assessment is supposed to provide complementary information on the socio-economic situation of presumed population at risk of food or nutrition insecurity.*

The third option was given the preference as it enlarges assessed field. It will also offer a comprehensive understanding of the situation and main problematic through a multi-disciplinary approach.

NUTRITION METHODOLOGY⁵

General Approach

The nutritional survey and retrospective mortality survey will cover four union councils in Rawal city based on the indicators mentioned above. The union councils are Dhok Hassu North (Union Council 5), Fauji Colony (Union Council 8), Mohallah Eid Gah (Union Council 16) and Pir Wadhi (Union Council 7). The anthropometric nutritional survey and mortality survey should be implemented over approximately 10 days starting on June 4 and continuing until June 16, 2007 and a broader understanding of the nutritional situation in these union councils (including questionnaires, key informant interviews and focus group discussions) will be implemented from May 14th – June 16th. The survey will take place on Monday through Thursday and Saturday. The survey together with the broader nutritional assessment shall have the following objectives:

- ☑ To evaluate the nutritional status of children aged 6 to 59 months in the urban context of Rawalpindi City.
- ☑ To estimate the retrospective death rate among children less than 5 years of age, and the crude death rate of the total population living in the area covered by the surveys.
- ☑ To make recommendations for nutritional interventions in Rawalpindi City.

The type of sampling methodology used will initially be the SMART 30 x 30 cluster sampling. This is due to the sample population residing in an urban, unstructured housing scheme and the lack of a systematic organization of housing and roads. The cluster numbers may be changed after the survey team field tests their survey approach, as they may not be able to measure 30 children in one day (assuming that it may take longer in an urban context due to building/housing schemes – see methodology below).

All children from 6 to 59 months selected from the cluster will have their sex, age (to the month if possible), MUAC, height, weight and edema recorded for the anthropometric survey data. All household members in the cluster sample will be surveyed for the mortality data. The survey will yield anthropometric details on approximately 900 children and mortality data on the selected 900 childrens' families. The average number of household members per household in major cities in Punjab District is 6.41 and the average number of children under 5 per household is 0.70⁶.

Sampling procedure and sample size for anthropometric data and mortality data

The union council is the smallest administrative unit that can be found in Rawal City with population figures and definite boundaries. See below the estimated population size for the specific geographical units in 2007.

⁵ This section was developed by Lindsay Spainhour.

⁶ District-Based Multiple Indicators Cluster Survey 2003-04 – Punjab, Government of Punjab Planning and Development Department, The Federal Bureau of Statistics and UNICEF collaboration survey.

Geographical unit	Population size
Dhok Hassou North UC 5	18503
Fauji Colony UC 8	25841
Mohalla Eidgah UC 16 ⁷	6837
Pirwadhai UC 7	24615

These population figures result in a total population of **75796**. Twelve percent of this population is 9096, which for this survey will be the estimated number of children in these union councils in 2007⁸.

The reference estimate for acute malnutrition for Pakistan comes from the National Nutrition Survey carried out in 2001-2002. The prevalence of wasting which was a weight for height (WFH) < 2 SD of Z-Scores was at 13.1 (11.3 – 14.9 with a CI of 95%). The prevalence of stunting which was a height for age (HFA) < 2 SD of Z-Scores was 36.8 (35.2 - 38.4 with a CI of 95%). The prevalence of wasting (percent Median) in urban areas in the same survey was 12.1 and the prevalence of stunting (percent Median) in urban areas of Pakistan was 37.8.

Using the above figures the sample size calculation for this cross sectional anthropometric survey is as follows:

9096	Children below 5 years
12.1	Estimated prevalence %
3	± desired precision %
2	Design effect
865	Sample size

A desired precision of 3 is needed as background data collection (key informant interviews and observation of the community) indicates that there is not a major catastrophe with high levels of malnutrition so therefore the high precision is needed in order to determine whether or not AAH-USA should intervene (nutritionally) in this context. The design effect is set at 2 based on the estimate by the preliminary data collection that these union councils are relatively homogenous in nature (see indicator methodology above).

The mortality section of the survey will use a recall period of 90 days. The reference crude death rate for Pakistan is 0.22/10,000/day⁹. This number will be rounded up to 0.5 as the estimated prevalence rate per 10000/day for the survey.

75796	Population size
0.5	Estimated prevalence rate per 10000/day
1	± desired precision %
2	Design effect
150	Recall period in days ¹⁰

⁷ Only one section of union council 16 Mohalla Eidgah is included in the survey. It is the area known as Mohalla Raja Sultan. This area comprises the buildings beside the *Lai Nulla River* and has definite boundaries. Approximately 33% of the population is living in this area.

⁸ Under 5 children in the population of Rawalpindi City was surveyed at 12% in the official census of 1998 by the Population and Housing Census - Government of Pakistan.

⁹ Calculations done from 2005 UNICEF figures available at http://www.unicef.org/infobycountry/pakistan_pakistan_statistics.html

¹⁰ Recall period is from Eid ul Azur which corresponds to January 3, 2007 or approximately 150 days before the start of the survey.

254	Sample size
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Assignment of Clusters (40 clusters are assigned)

Geographical unit	Population size	Assigned cluster
Dhok Hassou North UC 5	18,503	1,2,3,4,5,6,7,8,9,10
Fauji Colony UC 8	25,841	11,12,13,14,15,16,17,18,19,20,21,22,23,24
Mohalla Eidgah UC 16	6,837	25,26,27
Pirwadhai UC 7	24,615	28,29,30,31,32,33,34,35,36,37,38,39,40

Selection of households and children

The survey teams began data collection in each cluster by finding a point approximately in the middle of the mapped segment for the corresponding cluster assigned for that day. They spun a pen/bottle in the middle of the road and noted the direction for the start of the survey for this cluster¹¹. After finding the approximate center of the cluster, as well as the direction in which they will walk, they put the numbers 2-5 into a hat and drew at random a number. The number chosen dictated the increment counted between doorways of each household chosen.

Once the randomization of the start of the survey was done, then each doorway (counted according to the randomized number) on the right side of the road/walkway will be entered. Within each doorway, one member of the survey team recorded on a piece of paper each household unit within the building. In the context of Pakistan, a household unit will be all those who eat from the same pot within the same household unit. Each household had their name written on a piece of paper and placed into a hat and a separate member of the team drew the chosen household. This drawn household was used for the anthropometric data and the household/mortality data. All children from 6 to 59 months old in a selected household were included in the anthropometry survey.

All households selected were interviewed for the retrospective mortality survey, whether or not they counted eligible children for the anthropometry survey. Once the questionnaires filled for the first household, no other household in this building (or doorway) was chosen. The team left the doorway, counted the doorways on the right hand side of the road to the random number that they drew in the beginning and entered the doorway corresponding to the random number. At the first intersection the team takes the road to the right. At the second intersection the team takes the road to the left, etc. If the team comes to a dead end before the 23 children in the cluster have been measured, then they turned around (not entering any of the doorways coming out of the dead end) took the opposite direction at the intersection where they entered the dead end road and then begin counting doorways on the right of the new road. If the doorway chosen was a business or shop (and there were no households in the building) then they left this doorway and entered the next doorway on the right (they did not count the random number for the next house).

In case of temporary absence of children or informant to answer the questionnaires, the household was not omitted, skipped or substituted in the data. The team visited back the household at the end of the working day. If the child/informant was still not available at the end of the day then this was noted by the team leader.

In situations where the members of a household had departed permanently/houses were locked/or no one answered the door, this particular household was recorded as such and skipped but not replaced.

¹¹ The two stage EPI method mentioned in the SMART methodology is not appropriate for this survey as there are not direct routes to the edges of the grid areas and many roads are dead ends. It is also not feasible to walk in a line and count the number of doorways until the end of the grid area. The methodology for this survey was to use only the direction from the approximate center of the grid within the union council.

Each household was asked whether they would like to participate in the survey and that this was by voluntary basis only. If they refused, then this household was noted by the team leader as such, but it was not replaced.

Training and supervision

There will be four survey teams of three persons each: a team leader and two measurers. If possible, all persons hired will be women as it is difficult to access the children in a household if you are a man. If hiring all women is not possible, then at least the measurers will be women. We will attempt to identify and hire the survey teams through recommendations from local NGOs or CCBs already present in the union councils. The training of the survey teams will comprise two days: May 30th and 31st and a test field survey will take place in the afternoon of the 31st. The teams will be trained by Lindsay Spainhour, nutrition officer and a nutrition assistant.

FOOD SECURITY METHODOLOGY [Second step]

The overall objective of the food security component is to evaluate the livelihood situation in the urban context of Rawalpindi city, to draw up recommendations and if needed, to formulate a possible program implementation.

The **second step** will essentially be dedicated to field assessment in selected areas. It will allow validating or invalidating preliminary outputs. Semi-directive interviews with key informants will offer an overview of the selected sector and of the main problems encountered. Discussions will then be conducted at household or individual levels raising various topics. Visual observations will also provide accurate information on dwellers' living conditions and environmental constraints.

200 household questionnaires¹² will be conducted along with the nutrition survey in order to better understand the socio-economic situation of screened households¹³. This will help analyzing influence of socio-economic factors in the malnutrition incidence. Questionnaires will also reach basic concern on housing conditions including water supply and access to sanitation. Number of questionnaires per Union council is proportional to the population. Only 15 questionnaires have been conducted in Mohallah Eid Gah as the field survey did not include the Union Council as a whole but targeted the ward with the higher exposure to environmental or economic disorders.

As previously mentioned, household questionnaires will be conducted along with nutrition survey, meaning that questionnaires will have to be hold in respect with the nutrition sample. As it is completely unrealistic to carry out 900 questionnaires, only one out of 5 families selected for the anthropometric survey will be interviewed. Food security sample will then be randomly chosen as is the nutrition sample. It was decided to conduct household questionnaire even so family had no less than 5 years old child.

4 female surveyors (one for each nutrition team), hired at the Union council level, will carry out the questionnaires. A male facilitator was also hired in each of the Union Council to link both teams (food security and nutrition) as their rhythm was different and to insure proper communication with the community.

Planning for the Food Security questionnaires

Each surveyor will have in average to conduct 5 questionnaires a day.

¹² Refer to Household questionnaire in Appendix I

¹³ A **household** is defined as a group of people who routinely eat out of same pot and live in the same housing unit. One household can include several families. This definition remains valid for the whole document.

Union Council	Number of questionnaires	Number of days	Dates
UC 5 – Dhoke Hassu	50 questionnaires	10 days	June 4 th – June 16 th
UC 8 – Fauji Colony	70 questionnaires	10 days + 4 days support from UC 16 team	June 4 th – June 16 th + Support from June 7 th to June 12 th
UC 16 – Mohallah Eid Gah	15 questionnaires	3 days	June 4 th – June 6 th
UC 7 – Pir Wadhei	63 questionnaires	10 days + 3 days support from UC 16 team	June 4 th – June 16 th + Support from June 13 th to 16 th
TOTAL	198 questionnaires¹⁴	4 x 10 days	June 4 th – June 16 th

LIMITS AND STRENGTHS OF SUCH A METHODOLOGY

Decision was taken to carry out questionnaires along with the Nutrition survey. In a cultural context where entering inside the house and discussing with women could be challenging, questionnaire was used as an entry point. It also gives the opportunity to accompany the nutrition team and to determine whether food security was to be considered as a major component of malnutrition in Rawalpindi. Efficiency of such an option is however arguable as questionnaires suffer from a certain number of limits:

- **Time consuming:** About 3 weeks have been spent only dedicated to the preparation of the field survey. Elaboration of the final version of the questionnaire, recruitment and training of the surveyors at the Union Council level, implementation, follow-up and then data processing was time-consuming. It is then relevant to question whether the time exclusively spent for the questionnaires would not have been better employed using a comprehensive approach.
- **Statistic significance:** As above mentioned, main objective of the questionnaires was to provide socio-economic information on the households surveyed by the nutrition team in order to pinpoint the possible causes of malnutrition. It is thus worth underlying that sample is only significant when analyzed under the scope of the nutrition survey. As a result, quantitative data hereafter described cannot be extrapolated for the whole Union Council.
- **Relevancy of some of the answers:** It is admitted that some of the questions, especially when referring to income or expenditure, are to be analyzed with an extreme cautiousness as transparency on such a subject is usually limited. Bias is here further augmented by peoples' fear of taxation department... It can be assumed that data related to income and expenditures are thus underestimated.
- **Large disparities between households:** Although targeting Union Councils on the basis of the above described indicators undoubtedly lessened socio-economic differentials, inequities within the assessed population remain high, which might result, in the analysis, into the mitigation of the difficulties encountered by the lowest income.

Besides the arguable decision to undertake questionnaires, the major limit of this methodology is that geographic cluster prevailed against social criteria. Although it is admitted that the living conditions of the selected Union councils are amongst the most precarious and that there is undoubtedly a correlation between the location and the socio-economic situation of its dwellers, it does not mean that

¹⁴ 2 questionnaires could not be analyzed due to uncertain responses

the most deprived are clustered geographically. Population with no access to legal settlement or homeless people will seek for refuge anywhere throughout the city and will not systematically settle in the economically disadvantaged wards. In the specific case of Rawalpindi where there is no slum inhabited by a large population [contrary to many cities throughout the world], it would have been maybe more judicious to socially cluster instead of geographically. To partially mitigate impact of such a methodological limit, discussions were held with inhabitants of some of the illegal settlements as well as with labor children, their families and institutions providing them education.

In order to obtain a broader understanding and also to crosscheck data collected at household level, a qualitative approach (semi-directive interviews with stakeholders, market survey, transect...) was compulsory along with the questionnaires.

Another adaptation of the methodology that could have been better anticipated is linked to the specific consideration that had to be given to households with malnourished child. Understanding of the possible causes of urban malnutrition being an expected outcome, it would have been more fruitful to only concentrate on those households and to deeper assess their main constraints. To overcome such a limit, 10 home visits were thus undertaken at the end of the field survey, relying on the list of confirmed malnourished children. Objective was to highlight major underlying causes of malnutrition for those identified children and to evaluate the possible incidence of food and livelihood factors. In total, out of the 55 households with either moderate or severe malnourished child, 18 have been visited by the food security team (about 30%).

MAJOR CONSTRAINTS

Fear to face difficulties to enter houses was not confirmed. Few households refused to be surveyed with no effect on the running or results of the assessment. To overcome cultural hindrances for entering house, only female staff was recruited.

Major constraint was actually administrative as requested NOC for any kind of assessment or implementation in Pakistan was only obtained a day before field survey took place. It would have been more judicious to apply for NOC prior expatriates' arrivals as this official document was a prerequisite for the assessment implementation. Although this lack of anticipation did not delay the launching of the field survey, it created avoidable tensions and uncertainty.

2. MAIN FEATURES OF RAWALPINDI CITY

Rawalpindi is located in Punjab Province, North-East Pakistan, in the close vicinity of Islamabad. Rawalpindi cannot, in fact, be dissociated from the foundation and development of Islamabad in the 60s'. They are both strongly interconnected as may demonstrate the spatial continuity between both cities. Although it is sometimes stated that '*the development of Islamabad happened at the cost of Rawalpindi*' as it increased demographic pressure on the latter, it is likely that Rawalpindi took also some benefits from the 'Capital City' status of Islamabad.

Structures of power

Pakistan is a federation of 4 Provinces: Sindh, Balouchistan, NWFP (North Western Frontier Province) and Punjab Province. Every Province is divided into districts (*zila*).

The larger cities are run as *city districts* and subdivided into towns (*tehsils*) and towns are themselves divided into Union Councils (UCs). Union Council is the lowest administrative unit. There are only 10 cities with the status of city district which is the case for Rawalpindi since 2005. Rawalpindi city is divided into 2 towns (Rawal and Potohar) whereas Rawalpindi city district encompasses 8 towns or *tehsils* (Rawal, Potohar, Taxila, Gujar Khan, Kahuta, Kallar Syedan, Murree and Kotli Sattian) divided into 175 UCs. It is worth noting that administrative division was revised less than 5 years ago and consequently, the last population census (1998) did not establish any distinction between Potohar from Rawal (both included within *Rawalpindi Tehsil*) and Kahuta from Kallar Syedan (both included into *Kahuta Tehsil*).

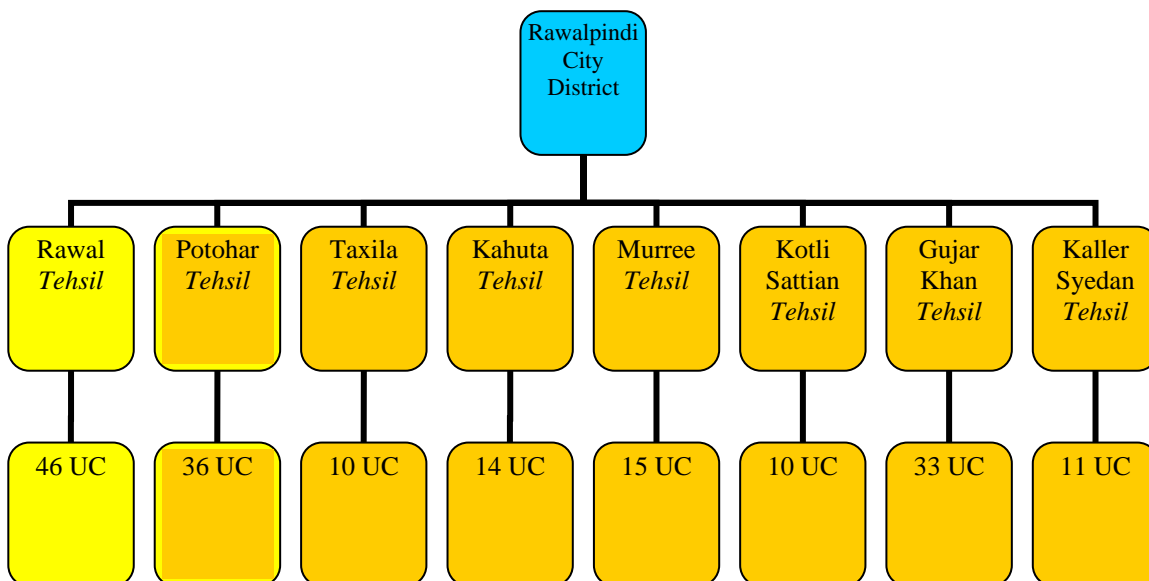
Distribution of responsibilities on district level has changed since 2000 with the introduction of the so-called *Devolution of Power Plan*. This administrative decentralization aimed at strengthening local power in regard with resource control and initiatives enhancement: "*The essence of this system is that the local governments are accountable to citizens for all their decisions*". Each district (*zila*) is now headed by elected mayors (*nazim*) and deputy mayors (*naib nazim*) and assisted by administration and an elected council. Following the Devolution Plan and in order to empower those traditionally excluded from the decision-making process, 33 % of the Assembly member seats are reserved for women and 5 % for workers and peasants. Councilors are directly elected by voters above 18 years whereas *nazim* are elected by the Assembly. Introduction of an election system on local level, although indirect for *nazim* position, endeavored to increase accountability towards citizens. Such a configuration is similar on District, Town (*tehsils*) and UC levels. The Plan also claims for creation of Citizen Community Boards (*CCB*) composed with community volunteers. Their role is to submit community project proposals co-funded partly by Governmental authorities (80% of the total budget) and by the community itself (20% of the total budget).

Objective of the Devolution Plan is to enhance local initiatives. It is worth underlying however that administrative decentralization may hardly improve local initiatives if appropriate budget is not allotted to local authorities. A Union Council with an average population of 20 to 25,000 persons only receives a monthly budget of 90,000 Rp (equivalent to 1,100 Euro)¹⁵. About 45% of this monthly budget being used for administrative expenditures, it means that remaining funds for projects' implementation is below 650 Euro...It is thus unrealistic for '*local governments [to be] accountable to citizens for all their decisions*'.

As long as Rawalpindi is concerned, organizational structure of the City district may be illustrated as follows:

¹⁵ 1 euro = 80 Pakistani Rupees

Chart 1: Organizational structure of Rawalpindi city district



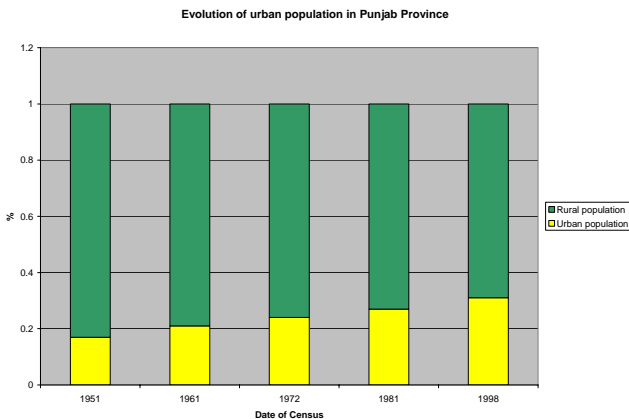
District *nazim* is also, since 2001, assisted by a District Coordination Officer (DCO) at the top and Executive District Officers (EDOs) heading each department (Finance, Health, Agriculture, Education, Water & Sanitation, Justice...).

Demography

Pakistan is the most urban country in South Asia as 34 % of its population presently live in towns. Karachi, with about 10 millions inhabitants, is one of the largest cities in Asia. Urban population, estimated at 45 million, is concentrated in two major Provinces: Punjab (56%) and Sindh (34%). Another demographic specificity of Pakistan and more specifically of urban areas is its fast population's growth. Pakistan's population eight-folded with a century and quadrupled in only 50 years. Urban growth is even faster as population living in cities has grown 7.5 times in half century, from about 6 millions in 1951 to 45 millions in 2004¹⁶, with an annual growth rate at about 5% at present time (estimated at 4.3% per annum in the three decades 1960 – 1992). It is worth noting however that the population census does not address Afghan refugees or immigrants from other countries, which undoubtedly leads to an under-estimation of the distribution urban/rural.

Graph 1: Evolution of urban population in Punjab Province

¹⁶ Estimation as no census has been done since 1998 (urban population in 1998 was 34 millions)



Urban population in Punjab Province has grown 6 times in less than 50 years (from 3.6 millions in 1951 to 22.7 millions in 1998). The creation of Islamabad as a capital city in 1961 and the subsequent development of Rawalpindi partly explain this demographic explosion. Rapid growth in government and administrative employment enhanced the economic dynamism of both cities, Rawalpindi and Islamabad.

Urban growth is partly due to natural increase, but is above all attributed to various forms of migrations.

Migration features

It is worth noting that migrations cannot be dissociated from Pakistan's creation and history. Pakistan experienced a massive influx of population [Muslims from India and other neighboring countries] in the immediate aftermath of its independence in 1947. Those migrations actually constitute the foundation of Pakistan as a Nation. Since the independence, migrations are still widespread throughout the country following various waves and covering three different aspects: Rural-to-urban, Inter-Provincial, International (although extremely important in terms of remittances and then of economic impact, Pakistani emigrations will not be addressed in this report).

- **Rural-to-urban:** Rural-to-urban migrations are a longstanding trend in Pakistan and find their origin in the lack of job opportunities and perspectives in rural areas, an increasing pressure on declining resources (water, land...) and a search for better living conditions.
- **Inter-Provincial:** NWFP and Balouchistan are the two Provinces with the highest level of out-migration, which may be explained by geopolitical, cultural and economic reasons. Migrants from NWFP are particularly numerous in the main cities of Punjab district such as Lahore and Rawalpindi.
- **International:** Pakistan experienced different waves of population's influx from neighboring and/or other Muslim Asian countries. International migrations are illustrated by an important influx from Bangladesh, Burma and India in the aftermath of 1947 and then of 1972¹⁷ and a steadily flow from Afghanistan resulting from the Soviet Union invasion, Afghan civil war and harsh living conditions. Since the change of Government in Afghanistan in 2001, a program of repatriation under the auspice of various Pakistani governmental authorities and of the UNHCR has been executed resulting into a massive return to Afghanistan. An exhaustive registration of Afghan refugees has been also carried out from October 2006 to February 2007 and the population was estimated at 2.15 million. All registered Afghans above the age of 5 received Proof of Registration cards recognizing them as Afghan citizens temporarily living in Pakistan. The cards are valid for 3 years, until December 2009¹⁸. Large majority of this Afghan population live in NWFP (64%) and Balouchistan (21%), more than half (55%) live outside camps. It can be assumed that Afghan population is however under-estimated as fear of eviction was highly dissuasive for registration.

¹⁷ *Partition between Pakistan and Bangladesh*

¹⁸ *Reliefweb, May 2007*

Rawalpindi demographic features

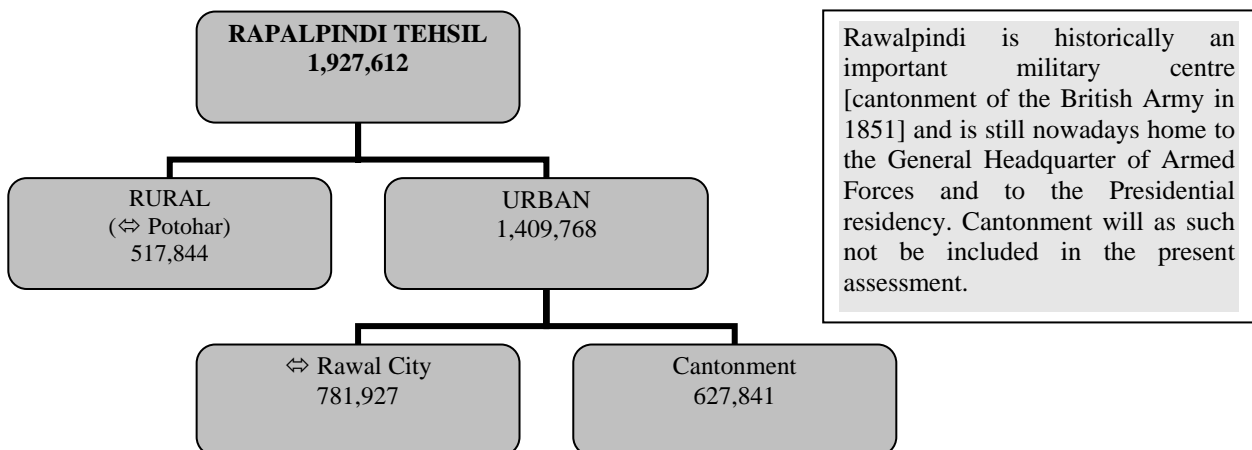
The population of Rawalpindi City District was estimated at about 3.36 million in 1998 (last census), corresponding to an increase of almost 60% compared to 1981. The population of Rawalpindi City reached 1.9 million in 1998 with an increase of 55 % since 1981.

Table 1: Population features in Rawalpindi district

	Surface area (sq.km)	Population 1998	Population 1981	Population Density per SQ.KM	Urban (%)	Rural (%)	Average Annual growth (81-98)
Rawalpindi DISTRICT	5,285	3,363,911	2,121,450	636.5	47%	53%	2.75%
Rawalpindi TEHSIL	1,682	1,927,612	1,065,646	1146	73%	27%	3.55%
Gujar Khan TEHSIL	1,457	494,010	360,588	339	14%	86%	1.87%
Kahuta TEHSIL	1,096	313,200	231,985	286	6%	94%	1.78%
Kottli Sattian TEHSIL	304	81,523	83,255	268	0%	100%	-0.12%
Murree TEHSIL	434	176,426	157,136	406	12%	88%	0.68
Taxila TEHSIL	312	371,140	222,840	1,189	73%	27%	3.04%

Rawalpindi City (Rawal, Potohar and cantonment) with about 57 % of the total population is the most populated *tehsil*. Density of the population is also largely higher than elsewhere in the District as it reaches 1,146 inhabitants per sq. km. This figure does not however reflect disparities within Rawalpindi city. Potohar is, for instance, much larger and less urbanized than Rawal¹⁹, implying that population density in Rawal city is largely higher than 1,146 inhabitants per sq. km.

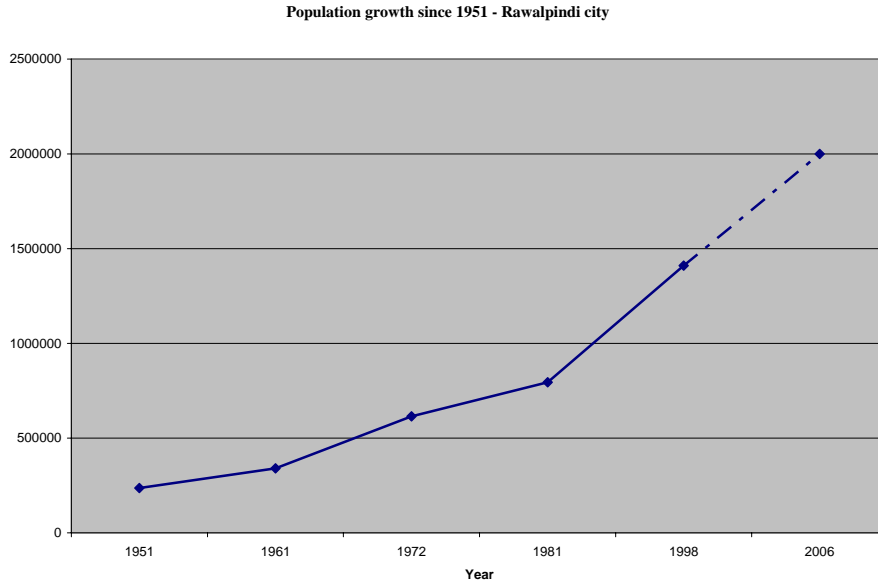
Chart 2: Distribution of the population in Rawalpindi city (census of 1998)



¹⁹ In the last census, Potohar was mentioned as 'Rural' and its population size was estimated at 517,844

The present assessment only focused on Rawal city with an estimated population of about 1 million in 2007.

Graph 2: Population Growth in Rawalpindi city from 1951 to 2006²⁰



(Source: Population Census Organization – Government of Pakistan)

This graph illustrates the dramatic increase of population in Rawalpindi city since 1951. It is worth underlying that the annual growth rate considerably increased in the decade 61-72 as a consequence of the shift of the Federal Capital from Karachi to Islamabad (5.1% per annum). Since early 80s', population increase may be partially explained by the political situation along Pakistani borders (Kashmir, Afghanistan).

Rawalpindi, as a result of its geographic position, is historically considered as a transit city, which may be illustrated by the large scope of inhabitant's origins. Economic opportunities further enhanced since the transfer of federal city capital from Karachi to Islamabad have drained migrants from the whole country and from outside Pakistan.

Climate

Pakistan is subject to monsoons that correspond to an alternation of a relatively dry season and an extremely humid season (July to September). Average annual rainfall is 1,142 mm, with about 60% occurring during the monsoon season. Temperature regularly rises from February to June/July as illustrated in the following table:

Table 2: Monthly Meteorological data in Rawalpindi

	Mean Temperature (°C)		Precipitation (mm)	Relative humidity (%)
	Maximum	Minimum		
January	17.7	2.6	56.0	63.5
February	19.1	5.1	73.5	61.8

²⁰ Population data for 2006 is only estimation as no census has been done since 1998.

March	23.9	9.9	89.8	56.6
April	30.1	15.0	61.8	40.1
May	35.3	19.7	39.2	34.1
June	38.6	23.7	62.2	36.0
July	35.0	24.3	267.0	60.7
August	33.4	23.5	309.9	70.3
September	33.5	20.6	98.2	61.3
October	30.9	13.9	29.3	54.9
November	25.4	7.5	17.8	59.6
December	19.7	3.4	37.1	65.0
Annual	28.6	14.1	1142.1	55.8

Source: Data Processing Centre, Pakistan Meteorological Department

In June 2007, temperatures sky rocked to an extreme 50 degrees. Rainfall peak in July/August is to raise particular attention as it probably impacts on morbidity and heavy rains may also provoke flash floods in Rawalpindi Centre.

Access to infrastructures

Urban growth has been previously highlighted and is now to be confronted with the development of basic services. Pakistan's urbanization only reached 8% in 1947 against 35% at present time. Questions on capacities of those fast-growing cities to absorb an accelerated influx of people are thus highly relevant. Access to infrastructures is indeed not to be regarded solely but put into perspective with population size and growth, with environmental conditions and with possible economic hindrances. Availability of health centers or schools, for instance, does not systematically imply an easier access for all the population. Social or economic factors may hamper some of the inhabitants accessing to basic services. Access to water and sanitation facilities requires also an integrated approach as high concentration of inhabitants and of economic activities dramatically increases risks of contamination. Not only should be considered the proportion of people having access to tap water or latrines, but also – and above all - water quality and efficiency of the sewerage system.

Educational facilities

When considering Education in Rawalpindi, major problem seems related to financial constraints. Public schools operate all over the city, but quality of education is said to be highly questionable due to budget limits. They are often ill-equipped and poorly staffed, resulting into attendance of over 100 pupils per classroom with no materials or furniture (tables, chairs, blackboard, desk, educational materials...). As a consequence of this bad quality of service, parents often opt for private schools when they can afford it. Quality of education in Pakistan as in most of market-based countries is correlated to its price, further strengthening inequities between social groups.

Another highlighted constraint is related to the sometimes long distance for female students to reach school, which might be sensitive in the specific cultural context of Pakistan. Such a difficulty is however to be put into perspective as there is little doubt that access to education for girls is much easier than in rural areas or even than in most urban Pakistan. Data from the Statistic Department of Pakistan confirm such an assertion as female literacy rates in Rawalpindi are among the highest of the country. Rawalpindi, with about 70% of the female population considered as literates, reaches the 107th position out of 112 surveyed towns.

Adult literacy (male and female) reaches about 80% of the total population of Rawalpindi. This rate is also one of the highest of urban areas in Pakistan (Rawalpindi ranks the 109th position out of 112; Islamabad, Ghizer and Karachi having the 3 highest rates)²¹.

Without minimizing difficulties encountered by urban population to access Education, it seems relevant to analyze those problems with a country-wide approach. Rawalpindi is certainly one of the most privileged areas for Education in the country. Problems are there intrinsically related to the system itself as poor investment is generally done for public schools. Improvement is as such highly dependent on national orientations.

In parallel to conventional schools, few local ngos (ITA or SACH)²² run drop-in centers for rag pickers providing education and medical check-up. Above an estimated 1,500 children regularly attend one of the 20 centers operating in Rawalpindi and Islamabad. Schedule is adapted for the child to be able to combine school and his activity. Hindrances often come from the parents rather than from the children as school may compete with an essential source of income.

‘Space for public, private initiatives for Education’

“Pakistan society today is split three ways when viewed from the perspective of education. At the top are the students who have received reasonably good education from western-style institutions that operate mostly for profit. They count for perhaps 10 to 15 % of the student body in the 5 to 18 years group of some 70 millions people. Another 10% go to private schools that educate the poor. At the bottom are the religious that provide education to about 1% of all students attending schools. In between is 75% of the student’s population dependent on a public system that is inefficient and corrupt, in other word dysfunctional”.

Extract from “Youth and Education special Political, Social and Economic Education” – September 2006 – Asif Khan in Liberal

Health facilities

Access to health facilities will not be developed in this report as it is part of Nutrition analysis. Criticisms against access to good quality of health centers are widespread in every visited Union Councils. Problems are similar than for education, meaning that poor investment in public health centers (hospitals, dispensaries...) leads to an inadequate service. Low salaries discourage attendance of medical staffs that often run in parallel private cabinets.

Besides poor quality of services, financial constraints may also impede access to medical care. Badly equipped hospitals oblige patients to come to hospital with their treatment, renewable stuff (syringes, compresses...) and food. To get access to proper quality of medical care, patients often refer to private clinics.

When relying on the Statistic Department, medical coverage in Rawalpindi can be considered as low:

- *Number of Doctors per 20000 Population in Urban Pakistan => 6th at National rank (first being Multan and corresponding to the lowest coverage; Islamabad: 77th rank).*
- *Number of Nurses per 20000 Population in Urban Pakistan => 10th at National rank (first being Barkhan).*

Such a very low ratio of medical staff is even more problematic with a gender perspective. In Pakistan, women are to be checked-up and treated exclusively by female medical staff.

²¹ For more details, refer to Annex XXX

²² For more details on those ngos, refer to Annex XX

Water & sanitation facilities

Asian Development Bank (ADB) conducted a technical study on the water and sanitation situation in Rawalpindi and findings were as follows:

ADB Technical Evaluation - 2003

Lack of adequate water supply: “The water supply available to Rawalpindi City does not reach the planned 256,000 cmd due to poor yield from Khanpur dam and decreasing outflows from existing tubewells, mainly due to persistent drought over the past three years. The city is expected to face future deficits of about 27% of demand in 2010 and 48% in 2025. The projected deficits may be addressed through (i) reducing water loss, which accounts for over 30% of treated water production, in the mains and distribution network, (ii) introducing water conservation measures to reduce demand and (iii) developing new water supply sources”.

This was the rationale of the first phase of ADB-funded project completed in 2003. A US\$ 72 millions’ loan was approved in 1993.

Poor water quality: “Water quality analyses done in 2002 showed that **over 85% of water samples analyzed for physical, chemical, and bacteriological parameters were found unsafe for human consumption due to bacterial contamination.** The distribution system is weak due to intermittent water supply, leakage, and ingress of pollution from sewerage pipes and storm drains. WASA has recently installed some chlorination facilities at selected tube-wells, but many tube-wells have no disinfection facilities”.

Limited sewerage coverage: “The sewerage system of Rawalpindi presently only serves about 30% of the population and some of this is ineffective because of blockages and poor maintenance. Raw sewage, which discharges through piped or open channel systems into the nearest drain, cause serious public health and environmental problems”.

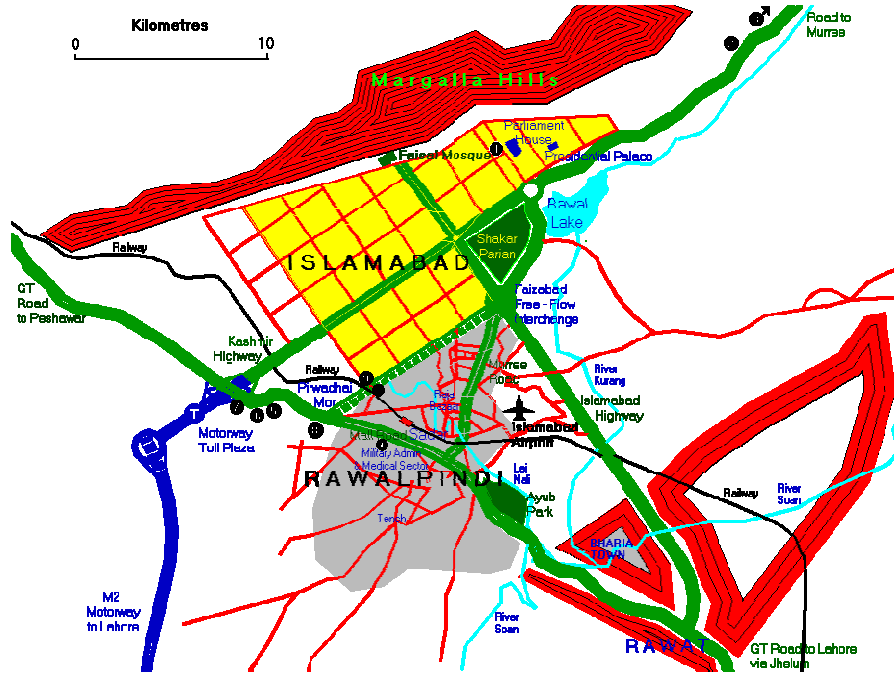
Absence of sewage treatment and consequent environmental and health hazards: “No sewage treatment facility is available for Rawalpindi municipal or industrial wastewaters, which discharge into storm water drains. To safe guard public health and the environment and avoid flooding in the drains all the sewage should eventually be collected and piped through a new outfall sewer to a safe disposal location”.

Poor conditions of storm-water drainage: “The urban drainage system, particularly to the east of the city, is in very poor conditions, having been neglected for many years. In some areas, the system is undersized, restricted by encroachments and crossings, and blocked with solid waste and other debris. Major flooding occurs along these drains in each monsoon season. Upstream of the catchments, is a network of tertiary drains that are polluted by sewage and septic tank discharges, animal waste, and municipal solid waste”.

Solid waste management: Lack of an organized solid waste management system is the city has been a major contributor to environmental pollution. The Tehsil Municipal Administration (TMA) has reportedly made some progress with secondary collection and disposal following initiatives funded by the United Nations Development Programme (UNDP) and Japan International Cooperation Agency (JICA), and a new site has been purchased, for a sanitary landfill of 30 ha at some distance from the city. NGOs have also started some community-led primary collection initiatives. The major issues that urgently need to be addressed are provision of a transfer station, development of the sanitary landfill site, safe disposal of hospital waste, and improvement of the community-led primary collection.

Extract from “Technical assistance to the Islamic Republic of Pakistan for preparing the Rawalpindi Environmental Improvement Project” – April 2003

3. MAIN FINDINGS OF THE FOOD SECURITY ASSESSMENT



3.1 RAPID PROFILE OF SELECTED UNION COUNCILS

Dhoke Hassu - North (UC 5)

Dhoke Hassu Union Council is located in the Northern part of Rawalpindi, across the road defining the administrative boundary between Rawalpindi and Islamabad. One of the specificities of Dhoke Hassu is to encompass a large population from *Pathan* origin (42% of the sample are *Pashto* speakers against 36% of *Punjabi* speakers). This result is however to be analyzed cautiously as not less than 88% of the interviewed households are native of Rawalpindi, meaning that they are from longstanding migrations. Only 4% of the total population surveyed arrived less than 2 years ago. Such a significant proportion of *Pathans* in Northern Union councils is related to economic opportunities. Wholesale or retail markets are strongly handled by *Pathans*, notably involved in the nearby *Sabzi Mandi* (vegetable and fruits wholesale market). Men are mainly daily-wage workers.

Total Population (in 2007)	18,503²³
Housing unit (in 1998)	1,803
Piped water (in 1998)	98.5%

Population of Dhoke Hassu is extremely young as 50% of the sample is under 16 (children under 5 correspond to 21% of the population surveyed) and household's size includes in average 9 members²⁴.

²³ Estimations for demographic data have been calculated using the National census of 1998 increased by 4% per annum (growth rate used by ADB in 2003 for Rawalpindi).

²⁴ Only data for **households** were collected, meaning that average size of family is unknown. One household sometimes includes 2 to 3 families.

Access to water improved these last 2 years as a result of the completion of the first phase of the water and sanitation program funded by ADB. The project resulted in an increased water supply of about 34% for Rawal city as a whole. Dhoke Hassu also benefited from this significant increase, even though one third of the respondents mentioned that they only get water every second day (66% of the households are connected from 1 to 3 hours a day). Problems remain however for water quality as elsewhere due to poor conditions of water pipes and open drains used as sewerage system. Risks of contamination are thus still acute.

Dhoke Hassu is bordered by *Lai Nulla* River on its Eastern, Southern and Western part, increasing its exposure to flooding during the monsoon period. 28% of the respondents pointed out that their housing unit got flooded 1 to 3 times those last 10 years.

Fauji Colony (UC 8)

Fauji Colony had to face a slight influx of population following the eviction of Afghan refugees from the nearby camp. About 30,000 people lived in this informal settlement and had no choice than to quit in September 2005. They were requested to return to Afghanistan but part of them are said to have stayed in the neighboring Union Councils for economic reasons: “*We, mostly, are daily wage laborers, working in the nearby fruit and vegetable market*”. Consequences of in-migrations since the eighties are mainly related to the pressure on facilities and resources [accommodation, water, sanitation...]. Similarly to Dhoke Hassu, *Pathan* communities also constitute a large proportion of the population of Fauji Colony (42% of the interviewed households are Pashto speakers, same proportion being Punjabi speakers). About 72% are longstanding residents (27% natives from Rawalpindi and 45% settled for more than 16 years). Only a little minority arrived less than 2 years ago in Fauji Colony.

Total Population (in 2007)	25,841
Housing unit (in 1998)	2,326
Piped water (in 1998)	74.5%

Population is also young in Fauji Colony as 46% are under 16 of age (children under 5 represent 19% of the surveyed population). Average size of interviewed households is 9.5 members.

Water and sanitation conditions in Fauji Colony are similar as those of neighboring union councils. Access to water inside the house is now widespread and acknowledgeable improvement has been accomplished these last years. As elsewhere, water quality remains a serious issue as well as poor sanitation. Proportion of households using tap water as a main source of drinking water corresponds to only 57% of the total interview. This result does not mean that households do not have access to city network, but that they use another alternative for drinking water. Feeling that water is polluted is widespread amongst Fauji Colony dwellers, illustrated by a rate of 23% using private hand pump (boreholes are built in the courtyard of the house and are dedicated to private consumption). Another 17% fetch water in open well or outside tap water. There is however no evidence that groundwater is of better quality than water from *Khanpur* dam, although this sensation is widely shared. Criteria used are smell, taste or assertion such as ‘*water from hand pump is much cooler*’, but there is no bacteriological test available to confirm this assumption. As groundwater is however probably contaminated, water from hand pump is likely to be also unhealthy.

Problems related to sanitation are still predominant as a consequence of an inefficient sewerage system. When considering waste management, situation is largely acceptable and is said to have considerably improved these last 5 years. Workshops for recycling metals, paper, plastic are established everywhere in the Union council. Domestic waste that cannot be recycling is regularly burned. Development of waste-related activities had an indisputable impact on sanitary conditions.

Additionally, multiplier effects on employment of this sector, as it is sub-divided into a succession of activities involving low skilled manpower, are also valuable.

Fauji Colony is bordered by *Lai Nulla* River on its Western side (natural border with Dhoke Hassu North) and is as such exposed to flooding. A total of 26% of the interviewed households faced 1 to 3 times flooding these last ten years.

Pir Wadhi (UC 7)

Pir Wadhi, located Southern to Fauji Colony, is more central and is mainly populated with residents 84% of the sample are natives of Rawalpindi and 8% settled more than 16 years ago). Large majority of the dwellers is *Punjabi* speaker (against 17.8% of *Pashto* speaker).

Total Population (in 2007)	24,615
Housing unit (in 1998)	2,473
Piped water (in 1998)	99.5%

About 42% of the population surveyed is under 16 of age. Proportion of under 5 is 15% which is much lower than in other Union Councils visited (21% in Dhoke Hassu). Average size of the interviewed households is 7.6 members.

Pir Wadhi is bordered on its Western side by *Lai Nulla* River. Exposure to flooding is thus real for part of the Union Council (32% mentioned that they faced floods these last 10 year – 27.4% from 1 to 3 times; 1,6% from 4 to 6 times; 3% more than 6 times).

Mohallah Eid Gah (UC 16)

Mohallah Eid Gah is mainly populated with residents, although the UC had to face longstanding migrations: i) One wave of migrations occurred in 1947 in the aftermath of the Independence (people mainly settled in Satellite town); ii) Another one took place in 1973 as a consequence of a destructive earthquake in Kashmir. There is no *Pathans* migration in this UC. Water and sanitation is also the main concern highlighted during interviews, although situation undoubtedly improved these last years. Housing units are now directly connected whereas 10 years ago, water was to be fetched in street taps. Living conditions in the ward inhabited by Christians are certainly more problematic as they are highly exposed to flooding and sanitation system is clearly ineffective leading to an unhealthy environment. It is worth underlying however that population of this ward is not exclusively from Christian community²⁵. Survey was restricted to this specific part of the Union council as it is particularly exposed to flooding and unhealthy sanitary conditions. About 67% of the interviewed households suffered from flooding these last 10 years (for the very large majority, flooding occurred 1 to 3 times). Those results are to be put into perspective as criteria of selection for this ward was its exposure to flooding. Relying on these only data, it is impossible to state that UC16 is more subject to floods than previously described Union Councils.

Total Population (in 2007)	20,719
Housing unit (in 1998)	2,070
Minorities	33.8% of Christians
Piped water (in 1998)	99.5%

²⁵ In fact, only 2 out of the 15 households interviewed were Christians, which of course cannot be extrapolated as being the ratio between Muslim and Christians inhabited the ward.

Household size of the sample is 9.3 members with 44% under 16 of age (19% under 5).

Map 1: Satellite Image of Rawalpindi City



3.2 ANALYSIS OF THE LIVELIHOOD SECURITY

Livelihood security in urban context is dependent on purchasing power, meaning on income and hence on employment but also on market prices. Urban areas in contrast to rural areas are highly monetized not only for food commodities but for most of the basic facilities (accommodation, water, health, transportation, education...). As such, the present analysis will mainly put the emphasis on income and evolution of market prices. As reliable information related to income is usually tricky to obtain, the analysis will also include considerations on living conditions.

3.2.1 Living conditions

Illegal settlement:

Unplanned urban growth often leads to an increasing inadequacy between services and population's basic requirements. It may also expose urban dwellers to environmental hazards as a consequence of higher density, decline of living conditions and increase of waste. Emergence of slums is often the results of a poor development of infrastructures and the symptom of incapacity of the city to absorb a growing population. It is worth underlying however that rapid urban growth in Rawalpindi has not

engendered uncontrolled development of slums. Makeshift shelters gathering in very precarious conditions some **Shi'a communities** are spread throughout the city, but definitively more as a result of residing in those settlements for more than 35 years without any improvement in their living conditions (no access to water, exposure to floods or other environmental hazards, high risks of eviction, no access to sustainable work...). They almost exclusively rely on garbage collection as they are excluded from the socio-economic mainstream and from the infrastructure development. They are also completely left out from the Administration as they are deprived from ID registration, implying that they do not have the same rights than other citizens. This unstable situation is not specific to Shi'a population residing in Rawalpindi, but would be shared by large segments of Shi'a communities throughout the country. They are also highly subject to eviction as private landowners may claim for their plots at any time. Another form of exclusion is that children do not attend school, further perpetuating the socio-economic vulnerability of this population. As a consequence of their precarious living conditions, they are also highly exposed to disease outbreak. They stressed out that they regularly received visits from officials, media or ngos, but nothing concretely came out to secure their life conditions.

Besides those makeshift settlements located inside Rawalpindi, there is a large *Katchi Abadi* on the territory of Islamabad (bordering Rawalpindi) mainly inhabited by *Pathan* populations from NWFP or Afghanistan. They regularly receive threats of eviction from the Government as they illegally occupy public lands. Present ultimatum is ending this coming September as the Government reclaims its land for development. In contrast with Shi'a communities who are socially and economically excluded, inhabitants of this *katchi abadi* are integrated within the local economic network, notably in wholesale and retail trade. About 35 to 45000 people are said to live in this slum against approximately 100,000 dwellers two years ago. Following the registration process of Afghan refugees, Pakistani Governmental Authorities along with UNHCR organized massive 'volunteer' repatriations to Afghanistan. Some of them undoubtedly returned after having been expelled as economic and political situation in Afghanistan is still highly unstable and as they have limited connections there. It is worth underlying that many of those refugees arrived more than 15 to 20 years ago in Pakistan (sometimes 27 years ago), are of *Pathan* origin and are thus better included in the local economic network than it would be in Afghanistan.

Economic development certainly explains the progressive disappearance of illegal settlements in Rawalpindi and surroundings these last years. Regularization of some slums along with improvement of housing conditions has been frequently highlighted during interviews. Such a positive trend should not however underestimate another possible hidden explanation. Cases of forced expulsion and of physical demolitions of Refugee camps or of slums also occur in Pakistan enhancing irreversibility of the eviction process (Afghan Refugee camps).

Housing conditions:

In urban context, housing conditions are an essential indicator and factor of socio-economic insecurity. Proportion of owners of their housing unit is slightly higher than of renters (52% against 48%), which is lower than in urban Punjab as a whole (73% of owned houses).

Housing expenditures greatly weights on households' budget. Above one quarter of the whole households' expenditures is in average dedicated to housing (rent, electricity, gas, water). Access to ownership is thus an indicator of livelihood security as housing expenditures are twice for renters than for owners. Although information on income and expenditures are to be cautiously analyzed, an estimated 36% of monthly budget of renters is allotted to housing whereas this proportion corresponds to less than 20% for the owner. Despite the importance of housing expenditures in familial budget, very few respondents mentioned that they had to share their housing units with other households to reduce burden of housing.

Besides impact on livelihoods, ownership prevents households from risks of eviction and consequently of disruption of social network. As far as Rawalpindi is concerned, those risks are however limited (except for slum dwellers as above described). Above 64% of interviewed households did not change house over the past 5 years and if case be, reasons are often related to an attempt of improving living conditions (access to ownership, increased surface area...). Access to ownership is regularly mentioned as a major concern for household. Relying on those data and discussions, it can then be assumed that insecure tenure is not a serious issue in Rawalpindi with the exception of some specific social groups.

Relying on VAM assessment and hence on Statistic Department of Pakistan, proportion of the population living in concrete house (*kacha* houses) is one of the highest in Rawalpindi when compared with other cities of the country (110th rank at national level out of 112 – Karachi being the 112th).

Basic utilities such as water, electricity or gas are overwhelmingly accessible in visited Union councils. All surveyed households have an access to electricity and water, whereas an extremely limited number uses firewood instead of gas. People however complain about regular breakdowns that are more frequent during summer time. According to the Statistic Department, between 0.5 to 2.5% of the population do not have access to electricity, which ranks Rawalpindi at the 78th position out of 112 (coverage of electricity supply is surprisingly lower in Islamabad – Rank 55, corresponding to 2.6 to 4.5% of households without electricity connection). Water supply has improved these last 5 years as an outcome of ADBs' project, but such an assertion would be more questionable if considering supply of drinking water. Households with an alternative source of income often avoid using city network water for consumption.

Conclusion:

Access to secure tenure is a complex and multidimensional question in Pakistan. Livelihood undoubtedly influences housing conditions, but it is far being the only factor. Poor availability of housing units as a consequence of uncontrolled urban growth population may also partly explain the development of *katchi abadi*. Those elements are however to be replaced in the specific context of Pakistan where social factors also play an important role. Slum dwellers in Rawalpindi or Islamabad are predominantly from religious (Shi'a, Christians) or ethnic minorities (refugees from Afghanistan). Addressing the only income aspect would be completely ineffective without a deep change in the process of exclusion in Pakistan. Poverty cannot be simply summarized by difficulties to access to secure livelihoods.

3.2.2 Income

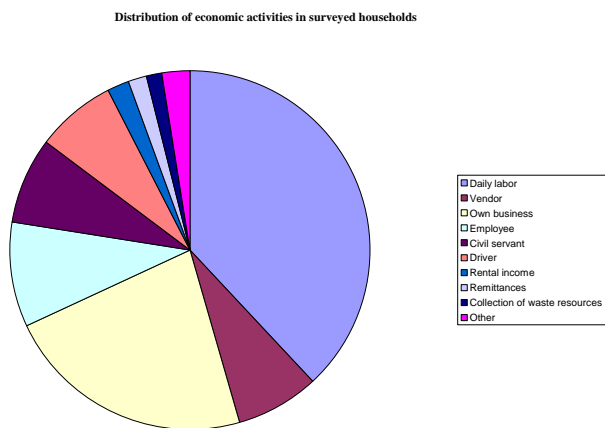
According to the Statistic Department of Pakistan, Rawalpindi ranks at the 10th position for '*Income per capita*' out of 112 urban areas (Islamabad being the first). Despite the multiplier effects of high salaries on the whole economy, this indicator is not very relevant as it does not reflect intra-urban heterogeneity of wealth and living conditions. Discrepancies in Rawalpindi are maybe higher than elsewhere as it hosts Presidential and Ministries' residences...

- **Main features of market labor:** Informal sector in Pakistan occupies a large segment of the labor market. As for all of the countries with a large informal sector, unemployment rates do not provide a truthful representation of the economic reality. With the absence of reliable data on employment situation, assertion on lack of job opportunities is hazardous. Report released by VAM on Urban food security ranks Rawalpindi at the 111th position out of 112 surveyed cities (Islamabad being the

better off) for unemployment. Relying on those statistics, unemployment is not a serious issue in twin cities Rawalpindi/Islamabad. As a possible illustration of attractiveness of the local labor market, 81% of the non-resident respondents stated ‘job opportunities’ as the main reason for their move to Rawalpindi (11% mentioned ‘conflict in their place of origin’)²⁶. Discussions with stakeholders highlighted that distortions are more related to inadequacy between quality of job available and level of education. The latter significantly improved this last decade for both male and female enhancing frustrations of the youths who do not find position corresponding to their qualification. This is particularly the case for women as their improved access to Education was not followed by a better access to market labor. Even high graduated women have tremendous difficulties to get a job as employers may be reluctant to employ female staff. When referring to household questionnaires, only 6.4% of the income-earners are female. Salaries for women are usually extremely low (monthly salary for a teacher is comprised between Rp 500 and 2000, which is much lower than daily wage for unskilled worker). Gender discrimination is a serious issue on market labor in Pakistan in urban and rural areas.

Most of the working force in the surveyed Union councils is involved in daily labor (38% of the total number of income-earners) or in retail market (above 30% also including ‘street seller’). This high proportion of daily labors (who are mainly involved in construction or wholesale market) illustrates the precarious situation of majority of workers in Northern Rawalpindi. Insecurity is however more in the status than in job uncertainty. Large majority of laborers work the entire month, implying that they do not face any labor and hence income disruption. This would imply that there is no scarcity for skilled or unskilled daily work. As being employed in informal sector, daily workers are however totally deprived of labor rights and of social insurances. Any interruption for medical reasons may thus rapidly jeopardize household’s livelihoods.

Graph 3: Main economic activities in surveyed households



Proportion of ‘Employee’ and ‘Civil servant’ is relatively important as it corresponds to 17% of the total income-earners. It is likely that ‘Remittances’ (less than 2%) is underestimated as respondents are usually reluctant to mention it.

It is interesting to underline that employment situation for daily labor would have improved these two last years as an indirect consequence of the devastating earthquake that stroke Eastern Pakistan in October 2005. Tremendous needs for reconstruction and higher wages paid in the earthquake-affected areas drained large segments of manpower from Rawalpindi (and probably from elsewhere)

²⁶ This is however not a valuable indicator as majority of the respondents arrived several years ago and situation in labor market may have changed since their arriva.

to NWFP or Kashmir. This outflow created a shortage of manpower in Rawalpindi and mechanically a rise in daily wages (from Rp 150 per day in 2005 for unskilled workers to Rp 200-250 nowadays, meaning an increase of 1 to 2 third in less than two years).

- **Poverty line:** According to official estimates²⁷, the national inflation adjusted poverty line is Rs878.64 per adult equivalent per month²⁸, i.e. about US\$15. Poverty line in Pakistan is consumption-based as it is assumed that reluctance of the survey respondents to reveal their expenditures will be less than for income. Additionally, income is certainly more volatile and may bias the results. The poverty line is based on a consumption of 2,350 Kcal per adult per day. When considering household with 9 as the average of the selected wards, the poverty line reaches Rs8220.
- **Familial structure and organization:** Average size of households in visited Union Councils comprises 9 members. Similarities between structure of households in urban Rawalpindi and rural areas are worth underlying. Whereas urbanization is often accompanied by an atomization of the household, in Rawalpindi, extended families remain the norm. Proportion of nuclear families is still indeed marginal. In Pakistan, girls, traditionally, quit when they get married, whereas male members stay at parent's domicile with their own family (wife, children). In the absence of Governmental social insurance, such a system allows alleviating risks of socio-economic exclusion of elderly and non-worker members. Such an organization is also to be understood in regard with the specificities of local labor market. The latter is indeed characterized for daily workers by job uncertainty, low wages and high exposure to financial losses in case of unemployment, diseases or accident. Risks of complete livelihoods disruption are of course more important for nuclear family with a single income-earner than for extended families. Such a familial organization then may be understood as an economic and social safety net similarly to rural areas.

There is, in average, one income-earner for 4 dependents, meaning that economic burden of dependents is not so high.

At macro level, urbanization is usually accompanied with demographic transition, which has not been the case in Pakistan. As above described, population growth remains at high level in Pakistan despite its fast urbanization. Lots of governmental initiatives for the promotion of family planning are developed at national or local level. Field social workers diffuse messages on contraception and stimulate awareness on economic burden of a large number of dependents. Is however the achievement of demographic transition realistic without structural changes in labor market? As long as family members will be perceived as the only safety net, there is no pace for a successful demographic transition. Hindrances to this transition are cultural, but above all economic (low wage, predominance of informal sector, job and hence income uncertainty, no pension, almost no governmental support, increased monetization of all basic services: education, health...).

Gender discrimination is also undoubtedly rooted in this specific socio-economic organization. Male members being the only income-earners are considered as the safety net of the household and are hence given the preference for food, education or work.

- **Social and cultural hindrances:** Only 6.4% of income-earners are female workers. This low rate may be partly explained by employees' reluctance to recruit woman staff, but this is only the tip of the iceberg. Social and cultural hindrances for female work are as deeply anchored in urban than in rural areas. Women are to surmount disapproval from relatives or neighborhood when applying for a

²⁷ *Pakistan Economic Survey [PES] – 2005-06*

²⁸ *In 2002, the poverty line was Rs673.54*

job. In urban Rawalpindi as in most of the areas in Pakistan, there are still strong impediments towards women mobility. Paradox is that mentalities have positively changed when concerning Education, but labor market is still strongly male-driven. Civil servant: “Some months ago, I recruited one woman as she was high graduated and could perfectly fit the job. After I gave her my approval, she came with her parents to visit the office where only male staff was working. The day after, she declined the job offer”. Social and cultural hindrances for female work are still predominant and urbanization did not participate to woman emancipation. Recent events involving members of *Jamia Hafsa* based in *Lal Masjid* (Red Mosque) would have also increased reluctance of women to move outside their close neighborhood.

- **Child Labor:** Child labor is widespread in Pakistan (collection and sale of natural or waste resources, workshops...) in urban as in rural areas. Proportion of children working full day in order to increase household’s income although marginal is to be taken into consideration as it is an illustration of the precariousness of labor market (low income) and the failure of any social protection system. *Zakat* is in Pakistan collected by Governmental institutions, but redistribution to the poorest is questionable (not a single interviewed family benefit from *zakat* or other form of social support).

3.2.3 Market analysis

Agriculture is a major contributor to the Punjab’s economy and is also the Province producing the largest food surplus. Main products are wheat, rice, vegetable, sugarcane, cotton... When considering urban livelihood, it is important to underline such an economic feature as it may impact on the prices of staple food due to reduced costs of transportation and losses.

Rate of inflation for food, at national level, is much higher than the overall inflation (9.4% against 6.9% in April 2007²⁹). Inflation in Rawalpindi was in April 2007 slightly higher than the national average: overall inflation reached 7.3%, Food 9.8% and Non-Food 5.6% against 5.2%³⁰. Contribution of food items in overall inflation is thus significant. It may be of interest to emphasize the differentials in sensibility for various income groups to inflation. Impact of inflation will be indeed differently perceived by low or high income groups as their consumption are not only dissimilar in quantity but also in quality. Survey conducted by the Research Department of State Bank of Pakistan in April 2007 highlighted the following results for Rawalpindi:

Table 3: Rate of inflation by income groups in April 2007 - Rawalpindi

Overall income groups – April 2007		
General	Food	Non-Food
7.3%	9.8%	5.6%
Up to Rs 3000		
General	Food	Non-Food
7.2%	8.4%	6.4%
Rs 3001 - 5000		
General	Food	Non-Food
7.7%	9.2%	6.8%
Rs 5001 - 12000		
General	Food	Non-Food
7.5%	9.3%	6.3%

²⁹ Respectively 3.6% and 6.2% in the same month last year.

³⁰ Respectively for Islamabad, 8.1%, 11.4% and 5.9%

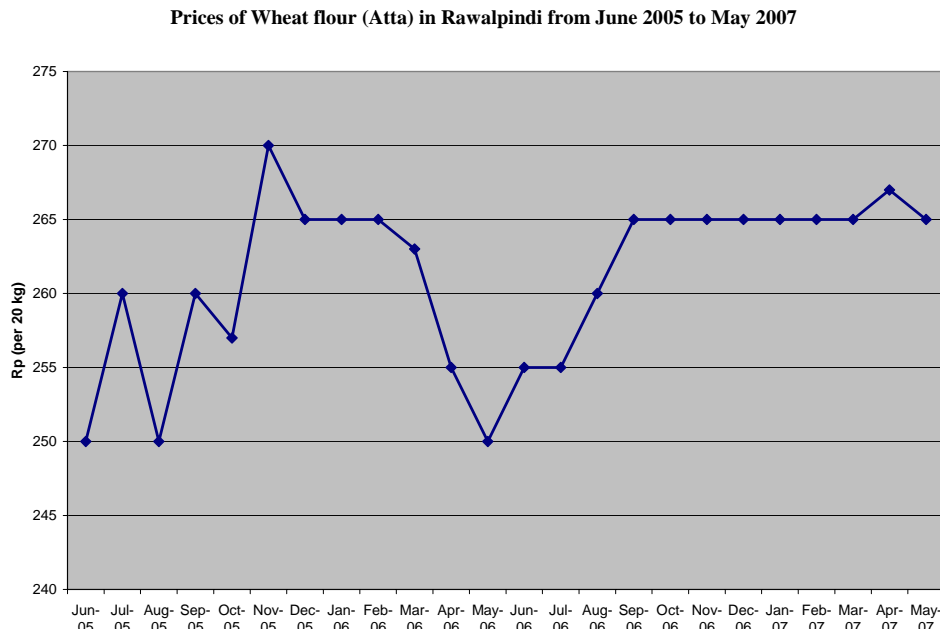
Above Rs 12000		
General	Food	Non-Food
7.2%	10.2%	4.9%

This table illustrates that low income groups are less influenced by the recent price fluctuations than other groups as inflation mainly concerns rice, poultry items, ghee. Those products, except ghee, are not components of low income's food diet.

Edible products

Wheat flour is the staple food for most of the population in Pakistan. It is the main source of carbohydrate of peoples' food intake. Consumption of bread (*chapatti* or *nan*) is daily independently of income level. To keep flour available at an affordable price, the Provincial Government of Punjab undertakes a wheat subsidy program with the objective of stabilizing domestic wheat prices. Punjab Food Department is annually due to constitute a buffer stock used to supply local market in case of inflation. As above illustrated, price fluctuations of wheat flour have been minor those last two years (scale of the graph may lead to a wrong interpretation as highest differential does not exceed 1 Rp/kg - December 2005 compared to May 2006)³¹. In 2007, wheat prices are particularly stable as Pakistan recorded an exceptional production [forecast at about 23 million metric tons] as a result of favorable weather conditions. There is thus little doubt that prices will remain stable throughout the year, even during winter time when risks of inflation are usually higher. Additionally, 2007 is an election year, meaning that the Government will certainly try to avoid widespread discontent. Daily market survey aiming at monitoring the price of wheat flour is undertaken on local market, in order to help decision to release government stocks on market.

Graph 4: Price fluctuations for Wheat flour in Rawalpindi from June 2005 to May 2007



This program is included into the national policy of price regulation for wheat flour aiming at mitigating the risks of uncontrolled inflation and consequently of adverse impact on households' food security. The Government of Pakistan banned wheat exports in order to avoid price fluctuations with

³¹ According to the Executive Director of Punjab Food Department, price of wheat flour was, ten years ago, about 600 Rp per 20 kg whereas it is now stabilized around 260 Rp per 20 kg.

an effective date in late May 2007. Less than 2 decades ago, price fluctuations of some food commodities such as rice, pulses or ghee were also regulated by state intervention. Only wheat remains nowadays under Governmental control as it is considered as a sensitive food item. Price of other commodities is now defined by open market mechanisms with no corrective measures.

Rice:

Rice production is, in normal time, sufficient to fulfill national requirements and Pakistan is said to have never imported rice in its history. This self-reliance would be compromised this year and an agreement with Thailand for rice imports would be under negotiations. Retail prices in the local market have risen by over 40% in the last 6 months, meaning for middle quality an increase of 17 Rp/kg. Such an increase is not related to seasonal factors or to harvest failure, but is mainly due to economic decision that gives the preference to export rather than to national market. UAE, India and especially Iran are more attractive markets and speculative exports - legal and smuggling - would have considerably increased these last months, jeopardizing national rice security. It is worth underlying that rice trade is handled by private sector, meaning unregulated and highly subject to speculation. Rice trade with Iran jumped these last years (Iran banned rice imports from Pakistan until 2003) and has apparently reached a peak in 2007. Iran, under the threat of international sanctions, considerably increased its rice purchases to build food reserves³².

Rice is not considered as a staple food in Pakistan, especially for the low-income population. As such, there is no governmental policy to regulate price fluctuation and to restrain speculation. Price increase may however indirectly impact on low-income, although the latter exceptionally consumes rice. Middle class may indeed substitute rice for other cereals or pulses as a response to inflation and then increase demand for wheat. Impact on retail prices will however undoubtedly be limited.

Ghee:

Ghee, which is produced with palm oil, is a major edible oil consumed in Pakistan. Cooking oil or fat is daily used. Retail prices in Rawalpindi's market have risen by 46% in six months time. Fluctuations are here highly dependent on international market as Pakistan completely relies on imports from Malaysia for its ghee production. The wholesale price of palm oil in international market has been continuously rising since early 2006, contributing to a persistent increase of ghee price.

Pulses:

Pulses – *dahl* - are also an essential component of Pakistani diet and are one of the main protein sources. 60% of the respondents mentioned that they consumed pulses 3 to 4 times a week [13% every day and 22% once a week], meaning that 95% of the households eat at least once a week pulses. Price of pulses remained remarkably stable these last months. The Government recently intervened to ban exports of pulses in order to mitigate risks of shortage and hence of inflation. Although pulses price is defined by market laws, state intervention still occurs to regulate fluctuations.

Vegetable:

Vegetables are of course highly subject to seasonal price variations. Rawalpindi is supplied throughout the year by a large wholesale vegetable and fruit market (*sabzi mandi*) located in the vicinity of Northern Union Councils. This market is one of the five biggest in Pakistan. Most of the trade relies on national production that is sufficient to guarantee regular supplies throughout the year. Seasonal calendar of major available fruits in wholesale market is as follows:

January to March / April => Orange
March / April => Melon

³² *Iran would have purchase for three years' domestic consumption of rice (information not cross-checked however).*

May to end of August => Mango, plum, peach, melon, watermelon, apricot, apple, banana...

September to December => Orange, melon, apple, grapes...

According to the President of the wholesale vegetable market, there is no fluctuation in volume during the year; only origin and price of the products seasonally change. Contrary to fruits, there is no influence of the season in types of vegetable available (tomato, potatoes, cabbage, onion...are available throughout the year). When considering food security, seasonal regularity of the volume of trade may imply 2 remarks:

- 1) There is no shortage of fresh food products such as vegetable or fruits at any time of the year. **Availability** is continuously guaranteed, which is probably not the case in most of the rural areas. Rawalpindi, as most of the large Pakistani cities, benefits from developed commercial infrastructures and network and is structured to seasonally adapt origin of supplies, hence mitigating risks of shortage. In rural areas or remote cities with ill-developed market infrastructures, availability of fresh products may be highly season-dependent, leading to irregular supplies.
- 2) There is no shortage of job opportunities. As above mentioned, large segment of the population living in Northern Union Councils or in nearby *katchi abadi* relies directly or indirectly to this wholesale market for their daily income. Seasonal regularity in trade would imply that there is no disruption in labor market and consecutively in income.

Question remains on **accessibility**. It can be assumed that accessibility for vegetable or fruit is not a major issue in Rawalpindi for any of income groups. Motivations for such an assumption are various:

- Large ranks of price exist for fruit and vegetable depending on the let's say commercial standards of the retailer. Price differentials may reach 50 to 70% between products sold by cart sellers in the streets or shopkeepers. Children from destitute families also collect damaged vegetable fruits and vegetable in Sabzi or retail market and sell them at very low rate to low income families.
- Non negligible quantities of fresh products [insignificant when considering the volume of trade but essential when considering lowest income-earners] are left out and thus are out of the monetized economy. As stated by one interviewed doctor, "*Consumption of vegetable and fruits is probably higher amongst the lowest income households as they directly and freely access to non marketable food items throughout the year in wholesale or retail market*". Problems may be here more related to food-borne diseases due to consumption of unsanitary products than to diversity of available food.

About 63% of the respondents confirmed that they consumed vegetable on daily basis, 35% from 3 to 4 times a week. Large varieties of vegetable are available at any price and remain thus affordable independently of income level. Fruits are also frequently consumed as not less than 25% of the respondents have a daily consumption and 21% three to four times a week. In total, 69% consume fruits at least once a week. This might be a seasonal trend as fruits are particularly abundant and diverse in summer time.

Meat and dairy products:

Elasticity of meat (beef, goat...) consumption is highly correlated to purchasing power. About one third of the households responded that they rarely or never consume meat or fish for principally economic reasons [33% once a week and 25% on monthly basis]. Meat, as is the rice, is reserved for special occasions (festivity, guests...) for low-income families. This result is however to put into perspective as poultry items were analyzed separately. Surprisingly, 25% of the respondents consume eggs on daily basis and in total, not less than 55% at least once a week. Such a result would have been

probably different in winter time as prices of eggs are season-driven. Poultry meat is more frequently eaten than beef or goat, as 47% mentioned a consumption of at least once a week [33% on monthly basis].

Consumption of dairy products is also surprisingly high as 100% of the respondents stated a daily use. Tea with milk and sugar³³ is an overwhelmingly popular beverage throughout Central Asia...

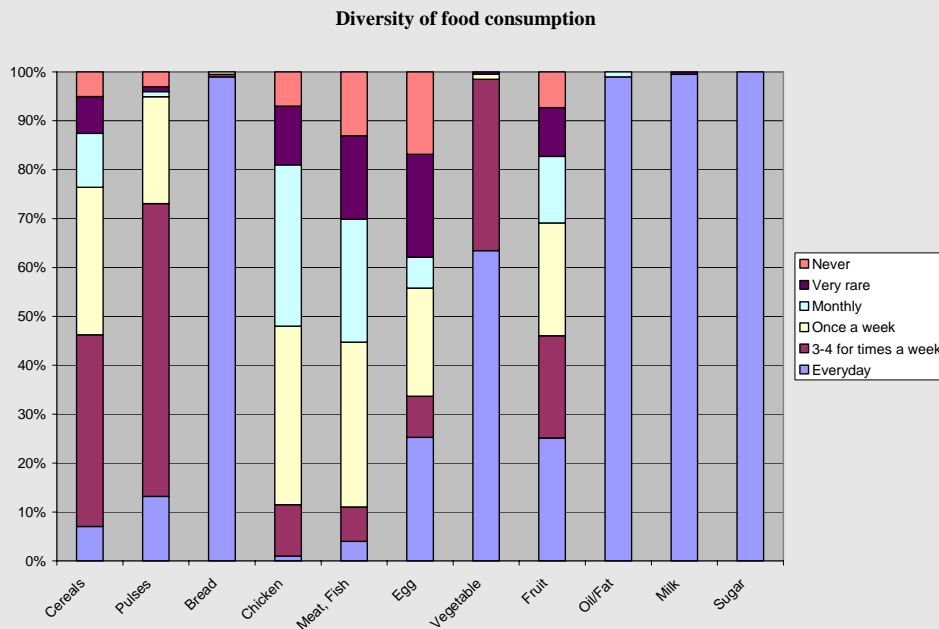
Non edible products

When considering expenditures, one of the specificities of urban context is the weight of non-edible products in households' budget. Burden of housing including rent, electricity, gas, water is more important in cities than in rural areas.

Conclusion:

In many developing countries, low-income population partly relies on their own production (kitchen gardens, poultry) to diversify their diet. In Rawalpindi, outskirts vegetable gardens do not contribute neither to an increased vegetable supply to the city nor to an improved dietary diversity of the poorest. Home gardens are extremely marginal, which may be explained by the lack of plots in the close vicinity of the city and also by the abundance of vegetables on the market that remain at affordable rate. *“In urban Pakistan, it is mainly food from rural areas, along with produce of peri-urban farm settings, that meet the demand of urban populace, along with some imported food that caters the needs of upper class and at times the middle class”* – VAM report, June 2007.

Graph 5: Dietary diversity in 4 Union Councils of Rawal city – Summer season



Low consumption of meat is compensated by other sources of protein intake such as dairy products, eggs, pulses. Except for eggs, seasonality plays a minor role in the diversity of food available on urban markets. Paradox is that cities equipped with well-developed commercial infrastructures and network offer a greater diversity of food along the year at affordable prices than often regions of production. The latter may face shortages, poor diversity or dissuasive prices as a result of insufficient trade development.

³³ Consumption of sugar is also daily for 100% of the respondents. Prices of sugar recently dropped down.

4. RISK FACTORS

A- ENVIRONMENT

⇒ Natural risk disaster

The *Lai Nullah* River, feeds with numerous streams originated from Margala Hills, crosses Rawalpindi from North to South. Heavy rains that frequently occurred throughout the monsoon season constitute a critical risk for settlements along the river. They are indeed highly exposed to water floods as tragically illustrated in 2001. In the *Lai Nullah* area, a total of 19 floods have been registered for the period 1944 to 2002, meaning more or less 1 flood every three years. The most disastrous floods occurred in 1981, 1988, 1997 and 2001. 2001 remains however the largest devastating flooding among recorded events.

The Meteorological Office of Islamabad recorded 620 mm of rain on July 23rd, 2001, which is an absolute record as the previous one was 320 mm on August 27th, 1997. Flash floods consecutive to those heavy rains resulted into massive destructions and casualties (about 210 people died, out of which 74 in Rawalpindi). According to Relief Cell of the Federal Government, number of people affected by the floods reached 400,000. This flooding was considered as a national disaster.

This dramatic event is said to have “*marked the start of a shift towards the concept of integrated flood management with a view to effectively manage and mitigate flood and related problems, both on a national basis and on river basin level [Lai Nullah Basin in particular].*”³⁴

Strategies to mitigate flood on *Lai Nullah* basin:

“As regards specifically the *Lai Nullah* basin a number of strategies have been considered for the city of Rawalpindi after the flood of 2001. These comprise: (i) straightening and widening of some of the reaches of *Lai Nullah* passing through congested city areas; (ii) stone pitching of some of the existing portions of the river in order to prevent erosion and danger of collapse of buildings standing close to the river; (iii) prevention of garbage disposal into the river in order to avoid blocking of water flow at bridge piers; (iv) increasing the heights of some of the road bridges built a long time ago on the river; and (v) removal of encroachments. However, these improvements need to be integrated with measures for Islamabad. In this context, the implementation of two urgent projects has been suggested: (i) the provision of a flood retardation basin in Islamabad as a structural measure, in order to cater for extreme floods and to reduce flood peaks at initial stages, with a view to ensure secure flow in the *Lai Nullah* downstream in Rawalpindi; (ii) the establishment of an effective flood forecasting and flood warning system for Islamabad – Rawalpindi. Some medium and long term measures are also being proposed which include provision of a long channel to divert flow of *Lai Nullah* upstream in Islamabad to a downstream tributary river, so that high floods are diverted thus protecting downstream areas on a permanent basis”.

Extract from “Pakistan: Lai Nullah basin flood problem, Islamabad – Rawalpindi cities” – WMO/GWP Associated Programme on Flood Management.

On March 2007, a so-called ‘*Leh Expressway and Flood channel*’ project funded by Federal funds was launched. Objective to ease intra-Rawalpindi traffic as the city is highly suffering from congestion and also to improve inter-connections with Islamabad. Another objective of this project is to reduce risks of flooding through notably embankment and coverage of *Lei Nullah* River. Cost of the project is estimated at Rp 16 billions.

³⁴ Refer to “Pakistan: *Lai Nullah* basin flood problem. Islamabad – Rawalpindi cities” – Ahmad Kamal

⇒ **Water pollution**

As above explained, Rawalpindi is not suffering from water scarcity but from water quality. Sources of contamination are numerous in the absence of proper sewerage system. Domestic or industrial waste is drained to Lai Nullah River with risks of contamination of groundwater. In addition, water pipes are often mixed up with sewerage lines increasing bacterial pollution. Water quality and poor sanitation system have been throughout the assessment the top concern of the population. There is little doubt that outbreak of some waterborne diseases are linked to this deficient system. Water contamination may also occur as a consequence of an inappropriate and unhygienic storage. Water quantities distributed in Rawal City undoubtedly increased those last years, but disruption in the supplies is still recurrent implying storage at household level. Awareness of diseases related to absorption of contaminated water seems to be insufficient. As an illustration, 74% of the respondents mentioned that they never boil water, because they 'don't like the taste of boiled water', 'don't have time' or 'don't need to do it'.

The overall goal of the national drinking water policy is the following:

- a) to ensure safe drinking water to the entire population at an affordable cost in an equitable, efficient and sustainable manner.
- b) To ensure reduction in the incidence of mortality and morbidity caused by water borne diseases.

ADB-funded project

“To address the problems of scarcity of safe drinking water and poor drainage, the Asian Development Bank (ADB) approved a loan of US\$ 72 millions in 1993 for the Rawalpindi Urban Water Supply and Sanitation Project, which forms the first phase of a three-phase program for improving the water and sanitation services in Rawalpindi. At the completion of the first phase of the program in 2003, Rawalpindi will have increased water supplies from 192,000 cubic meter per day (cmd) to the planned 256,000 cmd, with considerable rehabilitation and extension of its water supply distribution network and an improved drainage system.

The second phase of the program is conceived to focus on further improvements to sewerage and drainage, the provision of a sewerage treatment plant, and solid waste management. **The third phase will complete the overall requirements in Rawalpindi's water and sanitation.**”

Extract from ADB “Technical assistance to the Islamic Republic of Pakistan for preparing the Rawalpindi Environmental Improvement Project” – April 2003

⇒ **Sanitation**

Poor sanitary conditions in Rawalpindi dramatically increase public health hazards. Sanitation system that was not seized for such a population is nowadays totally inadequate. Domestic wastewater is discharged through pipes or open drains directly in *Lai Nullah* River or into the nearest drain.



Open drain in UC 16

Union Council 16

Although increasing waste recycling led to improved sanitary conditions in Rawalpindi, use of open drains as dumping site is still widespread and contribute to an increased risk of flooding by obstructing canals. Some areas of UC16 are particularly exposed to flash floods as a result of unprotected canal crossing the ward and poor waste management.

ADB-funded Project: “Rawalpindi Environmental Improvement Project” – [2nd phase]

Goal: To improve the living conditions of about 1.4 million residents of Rawalpindi, by enhancing the quality of the life and health, improving the environment, and creating conditions conducive to sustained urban development and economic growth. Its main components are:

- (i) Environmental sanitation, which includes sewerage, sewerage treatment, storm water drainage, solid waste management, slaughterhouse replacement, and public toilets;
- (ii) Water supply improvement, which includes replacement of tube-wells, rehabilitation and construction of new distribution systems, water meter installation, and urban infrastructure facilities for schools; and
- (iii) Institutional development, including development of municipal management, and urban development plan, asset management, and urban planning.

Loan approved for this second phase totalizes US\$ 60 million, which is to cover 70% of the projects' estimated total cost of US\$ 85.7 million.

Extract from “Pakistan: Rawalpindi Environmental Improvement Project” – October 2006 – Prepared by Project Management Unit, Rawalpindi Environmental Improvement Project, WASA HQ, Rawalpindi.

B- SOCIAL HINDRANCES

Gender and social inequalities are strongly rooted in Pakistan, leading to an unequal redistribution of national wealth between Provinces (Punjab, for instance, has always been privileged) and between different segments of population. Personal connections play a crucial role to access job (public servant or private job) or services, meaning that social mobility is extremely low. Opportunities to socially upgrade are even more limited for minorities as religious, gender or ethnic discriminations are still strongly anchored in urban as in rural areas. Pakistani society is male-dominated leading to unequal distributions of power and hence of influence in decision-making between male and female. Obstacles raised against women's physical and social mobility adversely impact on the entire household. Female work being quasi socially prohibited (women have to face hard social pressure from relatives or

neighborhood), economic burden of the family is entirely on males' shoulders. Incapacity of working of the male member may thus jeopardize household's livelihoods. Another direct consequence of impediments to women's mobility is the reluctance to move to health centers outside the Union Council. Some women councilors underlined that they sometimes had to accompany women with their sick child to hospital as they were unwilling to go on their own. This may of course adversely impact on health status as they will prefer the closest practitioner although it is known that fake doctors are widespread in those Union Councils.

Discriminations are not limited to gender in Pakistan, but discussions were not really conclusive on other kind of exclusion, except for Shi'a communities living in makeshift shelters.

Once again tackling solely livelihoods without considering social immobility would be inefficient.

C- PUBLIC SERVICES

Pakistan in its development is clearly influenced by the Millennium Development Goal adopted by the United Nations members in 2000. Goal 7 (out of 8) is more specific to urban context: "**Ensure environmental sustainability**" that includes "*Cities without slums*" [Target 11] defined as "*By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers*". Achievement of this objective "calls for coordinated policies and actions related to slum-upgrading, environmental management, infrastructure development, service delivery and poverty reduction at large".

As far as public services are concerned, availability should be analyzed along with quality and affordability of services delivered. Public school may be available but if instruction delivered is of low quality as a result of poor investment, students who can afford it will shift to private schools. Access to good level of education will thus be constrained by financial capacities of the household and consequently strengthened existing inequities. Same observation may be done for Health as poor quality of health care in dispensaries or Governmental hospitals will discourage patients who can afford better services. In somehow, quality of health care is correlated to its market price further excluding low income population from a proper service. It is worth underlying, at this stage, that health problems may adversely impact on peoples' livelihoods in two different ways: i) extra expenditures that are sometimes a great drain on household's finance, especially for long-lasting diseases (hepatitis, TB...), ii) sick-leave as it engenders, in the absence of social protection, direct loss in households' income. Tackling public health will thus indirectly impact on peoples' livelihoods.

5. RECOMMENDATIONS AND CONCLUSION

Analysis of the results for both Nutrition and Food Security led to the conclusion that the humanitarian situation in Rawalpindi could not justify an intervention from Action Against Hunger, if agreed that ACF's mandate is still "to save lives, protect and restore food security of the population" and not 'to alleviate poverty'. In such a case, decisive indicators for intervention remain i) prevalence and risks of acute malnutrition, ii) prevalence and risks of morbidity and mortality, iii) risks of population displacements. Preference will also always be given to ignored geographical areas, population and/or problematic. Reasons for a non-intervention are hereafter described:

- (i) **Rates of acute malnutrition are low and influence of livelihoods in incidence of malnutrition questionable:** As illustrated by the nutrition survey, acute malnutrition is not an issue.

Table 4: Global, Moderate and Severe Acute Malnutrition in Z-scores (comparison between NCHS reference and WHO reference)

	NCHS Reference³⁵	WHO Reference
Prevalence of global malnutrition (<-2 Z-score and/or Edema)	5.9% (4.4 – 7.4)	6.3 % (4.7 - 8.0)
Prevalence of severe malnutrition (<-3 Z-score and/or Edema)	0.1% (0.0 – 0.3)	0.5 % (0.1 - 1.0)

[The prevalence of oedema is 0.0 %]

Underlying causes of this acute malnutrition are mainly health-related as most of the cases suffer from associated diseases such as TB, congenital health problems (most of the time unknown by the mother) or other health disorders. Lack of food in quantity or quality is certainly not a major factor of acute malnutrition and its influence even minor is questionable. As previously described, food availability or access is not an issue in Rawalpindi despite recent inflation on some food items (rice, ghee...).

It can be admitted however that livelihoods play an aggravating role in some occasions. Household financial constraints may lead to poor living conditions with higher exposure to water or food-borne diseases and to inadequate access to health care. Tackling the only income question without improving health system and reducing public health hazards (hepatitis, malaria, TB, dysenteries...) would be totally useless to decrease acute malnutrition incidence.

- (ii) **There is no identified risk factor that may lead to deterioration in the close future:** Situation in Rawalpindi is definitively not worsening and is even said to have improved these last years. Although water and sanitation conditions remain precarious, there is no deterioration and it can even be assumed that sanitary situation will improve in the coming years as result of the second phase of ADB-funded project. There are no political, economic, climatic or demographic forecasted events that could participate to the sudden deterioration of the nutritional status of a segment of the population.

- (iii) **Positive influence from the proximity of Federal capital city, Islamabad:** One aspect that should not be neglected when considering Rawalpindi is its location. Proximity of Federal capital

³⁵Confidence Interval of 95%

city is of great influence on the twin city. Development of Islamabad directly or indirectly impacts on Rawalpindi's economy: job opportunities, commercial network, infrastructures (road, international airport...), access to services (University, Hospital...). Another essential positive impact of this location is the greater bargaining power of local authorities as they get an easier access to High Authorities (Ministries...) and International agencies (ADB, United Nations...). In the specific context of Pakistan where personal network is of great importance, this certainly helps the development of Rawalpindi.

- (iv) **What about chronic malnutrition?:** Chronic malnutrition in Pakistan, as in neighboring countries, is endemic. It was not possible to evaluate rates of chronic malnutrition in Rawalpindi due to difficulties to obtain truthful age for children. It can be assumed however than chronic malnutrition in Rawalpindi affects as elsewhere in the country under 5 children. Chronic malnutrition depends on a complex set of interrelated factors, of which food diet is only one of the determinants. Tackling chronic malnutrition requires thus a multi-dimensional and long-lasting approach as effect of improvement in individual food intake, on sanitary environment or infant feeding practices³⁶ is far being immediate. Programs aiming at reducing chronic malnutrition and micronutrient deficiencies have been running since several years under the auspice of United Nations (Unicef, WFP...) and in close collaboration with the Ministry of Health. Micronutrient Initiative is also present in Islamabad.

Purpose is not to minimize question of chronic malnutrition as it is admitted that stunting increases risks of child mortality or morbidity and of his development, but to consider it in respect with AAH's mandate. Reducing stunting is clearly a nation-wide public health problematic that implies long-term commitments from the Government.

- (v) **What would be the added-value of AAH?:** Decision to intervene is not only linked to the qualification of needs and ability of ACF to respond them, but also to the simple question 'what would be AAH's added-value?'. This question is particularly relevant in the specific context of Rawalpindi as its proximity to the Federal capital gives it a serious advantage compared to towns located in other Provinces than Punjab. There are on-going projects undertaken by the Government, national or international ngos, CCBs, international agencies (UNDP, ADB, JICA...), already tackling the major risks to malnutrition or other health hazards (water & sanitation, breastfeeding, child protection and education, waste management, mitigation of flash floods...).

³⁶ *Exclusive breastfeeding for under 6 months is very rare in Rawalpindi*

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