

ANNEX 2 – LIVELIHOOD

A. Introduction

1. This Annex assesses livelihood losses using the pre-earthquake profile of the affected areas—in terms of employment and sources of income—as a benchmark. The estimates of damages are based on a combination of insights from field visits, interviews with government officials and affected communities, and early data collected from the affected areas. The information that is available and quantifiable so far suggests that a livelihood strategy will require a combination of short-term mitigation efforts to weather the immediate shock to incomes and a long-term plan geared towards rehabilitation of sectors that generate employment.

2. The assessment of losses has been informed by a range of consultations, including federal, provincial and district government officials dealing with the rescue and relief efforts, NGOs working in the affected areas, international aid agencies engaged in relief, and individuals from affected communities. Site visits were conducted in Muzaffarabad and surrounding rural areas in Azad Jammu and Kashmir (AJK); in addition, all the affected districts were visited by the early data collection teams.

B. Damage Overview and Recovery Needs

3. In order to arrive at preliminary estimates of losses to livelihood, it is necessary to establish baselines on employment and sources of income in affected districts. The baselines are derived from the Population Census of 1998, and corroborated by evidence from household surveys (Pakistan Integrated Household Survey/PIHS), where applicable. Estimates of losses are derived from early government reports and the data collection efforts mentioned above.

Pre-earthquake Profile of Affected Areas

4. *Employment patterns across sectors and occupations.* The estimated total employment in the affected districts of the two provinces is 1.12 million.¹¹ This estimate was derived from district-specific employment figures published in the District Census Reports of the Population Census of 1998, and *adjusted upwards* to account for: population growth since 1998 and female labor force participation (significantly under-reported by the Census), using PIHS (2001-02) as a reference. The estimate includes self-employment and paid employment of all individuals of age 10 and above, but

	AJK		NWFP	
	No. of employed	% of total empl	No. of employed	% of total empl
Agriculture & Forestry	117,672	33.6	359,110	46.6
Mining	51	0.0	2,933	0.4
Manufacturing	16,200	4.6	14,515	1.9
Utility	1,222	0.3	6,050	0.8
Construction	39,506	11.3	73,292	9.5
Trade	29,350	8.4	59,482	7.7
Transport etc	12,722	3.6	40,590	5.3
Finance & Business	1,487	0.4	3,752	0.5
Services & Public Adm	123,156	35.2	188,876	24.5
Others	8,330	2.4	22,406	2.9
Total Employed	349,697	100	771,005	100

Source: District Census Reports (1998) for relevant districts. The numbers have been adjusted upwards from 1998, at the rate of average population growth for Pakistan between the 1998 and 2005.

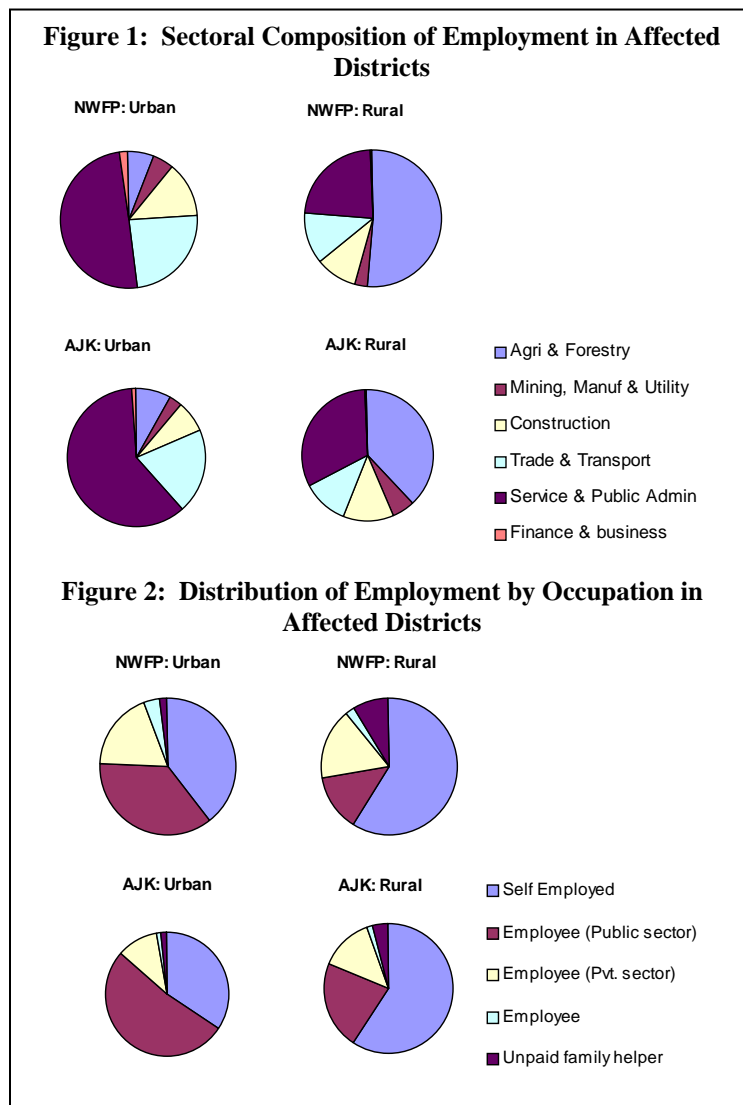
¹¹ Note that this is the *total employment of the 8 districts* affected by the earthquake. However, for most of these districts, not all areas were affected or equally affected by the earthquake, which makes this number only a rough estimate of employment in earthquake affected areas.

excludes employment of migrant workers in regions *outside* the affected districts – following the definitions adhered to by the Population Census.

5. In rural areas of both provinces, agriculture (including livestock rearing) is the primary source of employment. In the three affected districts of AJK, according to the Census of 1998, agriculture accounted for 37 percent of total *rural* employment, while its share was 49 percent for affected areas of rural NWFP (Figures 1 and 2). Services and public administration account for 60 percent of employment in the affected *urban* areas of AJK; small trading and businesses account for 14 percent, and construction and transport together account for 13 percent. Public administration, trade and small businesses, followed by construction and transport, are also the most significant sectors of employment for the affected *urban* areas of NWFP (Figure 1). Overall, employment in public administration is more prominent in AJK than in NWFP, and agriculture is conversely more important in terms of employment in NWFP than AJK (Table 1).

6. The employment patterns by occupational categories are broadly consistent with the sectoral compositions. Self-employed individuals, largely comprising owner-cultivators and shop owners/small traders, account for the largest share of employment (above 50 percent) in both provinces. Employment in the public sector is the second most important occupation in the affected areas, and its shares match well with the sectoral shares of “services and public administration”. Self-employment accounts for almost 60 percent of employment in rural areas of both provinces, reflecting the importance of agriculture and livestock-rearing, while paid employment in private and public sector dominates employment in urban areas (Figure 2). As expected, public sector employees account for a higher share of urban employment in affected districts of AJK than in NWFP.

7. Notably, manufacturing, utilities, mining and finance account for a very small proportion of pre-earthquake employment in the affected districts – less than 5 percent in both provinces. This, along with the low ratio of private sector employees to total employment, indicates that the formal private sector had a limited role in providing employment and incomes in these areas even before the earthquake, and was dwarfed by the public sector in the urban areas of AJK. This would also imply that the brunt of the loss to livelihoods due to the disaster would be borne by the informal sector, comprising of small traders, businesses and households engaged in livestock-rearing.



8. Participation of women in the labor force is low in the affected areas of both provinces (around 17 percent of women of age 10 and above). Among those working, between 40 percent (NWFP) to 50 percent (AJK) are employed in the public sector; agriculture accounts for between 22 percent (AJK) and 40 percent (NWFP) of women employed. The employment estimates, however, are *likely* to understate productive activities of women, particularly in home-based activities.

9. **Variations by agro-ecological zones.** The damage suffered by livelihood from agriculture is likely to vary across different zones even within the earthquake-affected rural areas. For example, in AJK, the affected rural areas can be sub-divided into two broad agro-ecological zones (AEZs): AEZ 1 or Northern Mountain Zone and AEZ 2 or Central Highland Zone. Even within an AEZ, there is much variation in cropping and livestock ownership patterns by altitude, with households at higher altitudes likely to be engaged primarily in subsistence farming and livestock rearing. These variations suggest that the types of losses in livelihood in the agricultural sector are likely to vary by geographical location even within a district, as well as by altitude. For example, for the large number of subsistence farmers in high altitude areas, the loss of a buffalo or a cow can amount to a complete loss of a productive asset that is costly to replace. On the other hand, in higher-altitude areas of AEZ2 where double-cropping is the norm, there is a need for fast turn-around in planting wheat after maize is harvested, and the disaster is likely to have an impact on the capacity to do so in the short window of time that is available.

10. **Migration and remittances.** An important feature of the affected districts is remittances, sent by household members who migrate to other parts of Pakistan as well as to other countries. The high incidence of migration of male household members is apparent from statistics on remittances received.

More than half of households in the affected districts of NWFP received remittances from domestic sources according to PIHS (1998-99), while the incidence of foreign remittances was almost negligible. Remittances amounted to around 29 percent of household consumption expenditure. Remittances are even higher in AJK, with 68 percent of households receiving remittances (including 25 percent who receive foreign remittances), which amount to 34 percent of total household consumption. To put these numbers into perspective, less than 17 percent of households in Pakistan receive remittances. Remittances are as important for the poor, amounting to about a quarter of the household's consumption expenditure even for the poorest quintiles in AJK and NWFP. International remittances appear to be more skewed towards higher quintiles than domestic remittances (see Table 2).

Table 2: Remittances Received by Households

Quin -tile	Proportion of households receiving remittances (%)					
	AJK (all districts)			NWFP (affected districts)		
	Any	Domestic	Foreign	Any	Domestic	Foreign
1 st	48.0	39.8	8.2	43.7	43.1	1.3
3 rd	71.6	53.0	22.6	60.4	56.1	4.3
5 th	71.1	30.7	42.7	56.9	56.9	0.0
Total	67.6	44.8	25.0	52.4	50.5	2.1
Share of remittances in household consumption expenditure (%)						
1 st	23.1	20.6	2.5	25.3	24.5	0.8
3 rd	33.7	21.8	11.9	32.4	27.8	4.5
5 th	40.1	13.9	26.2	29.1	29.1	0.0
Total	33.8	19.7	14.1	28.8	26.8	2.0

Source: PIHS (1998-99). AJK nos. are for the entire province.

11. The high incidence of remittances may also partly explain the relatively low proportion of population actively engaged in the labor market prior to the earthquake (29 percent of population of age 10 and above). Low participation and the propensity to migrate also likely reflect lack of employment opportunities, especially in the formal private sector in the affected areas of both provinces. The small size of the manufacturing, finance and business sectors in terms of employment generated suggest the lack of such opportunities.

Damage Estimates

12. Given the profile of livelihoods outlined above, the most severe impacts on livelihoods are likely to occur through loss of livestock and other agricultural inputs, including land, in rural areas; and losses to private assets suffered by traders and small businesses. The significant damage to public infrastructure, on the other hand, is not likely to lead to direct losses in employment among government employees. However, the shock to infrastructure as well as institutional capacity of the local governments is likely to have additional impact on the ability of markets, businesses and rehabilitation efforts to function effectively.

13. From the preliminary statistics on damage, the largest losses in urban employment are likely to have occurred in the private sector – including trade, small shops and businesses, construction and transport. This sector is likely to have included significant proportions of private sector employees and self-employed individuals. Preliminary numbers suggest extensive damage. For example, over 70 percent of shops have been fully or partially damaged in Batagram, Muzaffarabad and Bagh districts. Even shops and businesses that have escaped damage face enormous challenges, given the loss of markets and the uncertainty of demand due to large-scale migration from some areas.

14. The largest source of livelihood loss in rural areas is likely to be disruptions in agricultural and livestock-based activities, like milk production. In agriculture, a temporary loss in output and employment can occur due to inability to harvest crops, loss of acreage for cultivation, and inability to prepare land for the next season. In the words of a woman (a household head from village Raj Khandi, altitude 5,500 feet, north of Muzaffarabad): “.....the standing crop is being eaten by remaining goats, cattle and chicken; and what was left from that we have eaten ourselves”.

15. Livestock losses, besides representing significant losses in terms of capital assets, are also likely to have enormous impact on the incomes of households. In many rural households, livestock (buffaloes, cows, goats, sheep, and poultry) are a primary source of self-employment. All available sources indicate that significant losses in livestock have occurred, especially among households located at higher altitudes.

16. Early assessments indicate that all the factors above resulted in farm income losses of over 35 percent among affected households in four districts, and that of almost 50 percent in Bagh and Batagram districts. These losses obviously represent a significant shock to livelihoods in rural areas.

17. Aggregating across all sectors, the total estimated loss in employment or livelihood is around 324,000, which is around 29 percent of the total employed population (above age 10) in the eight districts (Table 3). The provincial breakdown is around 132,000 in AJK and 192,000 in NWFP, which amount to 38 and 25 percent of total employment in the affected districts of the two provinces, respectively. The largest job losses are in agriculture, trade (small businesses, shops) and construction. Given the lack of adequate information on lost employment, these figures are extrapolated from various proxies: output/household income losses in agriculture, and damages to shops, businesses, roads and transport.¹² No employment loss is assumed for migrant workers and public sector employees.

¹² These numbers should be considered preliminary and rough, and are likely to mask loss in female employment in household-based activities, which are typically under-counted in survey data and even in national accounting. The estimates also imply linear extrapolation from output or capital losses to employment, which can be misleading, particularly in the case of subsistence agriculture.

Table 3: Employment Losses by Province and Sector

	AJK			NWFP			Total		
	Pre-quake empl	% loss	empl loss	Pre-quake empl	% loss	empl loss	Pre-quake Empl.	% loss	Empl. loss
Agriculture & Forestry	117,672	34	39,834	359,110	32	116,003	476,782	33	155,837
Mining	51	83	42	2,933	39	1,157	2,984	40	1,199
Manufacturing	16,200	84	13,685	14,515	34	4,881	30,715	60	18,566
Utility	1,222	85	1,044	6,050	32	1,926	7,272	41	2,970
Construction	39,506	84	33,245	73,292	32	23,781	112,798	51	57,027
Trade	29,350	85	25,071	59,482	34	19,932	88,832	51	45,004
Transport etc	12,722	42	5,356	40,590	27	10,886	53,312	30	16,242
Finance & Business	1,487	86	1,278	3,752	33	1,255	5,239	48	2,534
Services & Public Adm	123,156	7	9,116	188,876	3	5,627	312,032	5	14,743
Other	8,330	40	3,292	22,406	31	6,936	30,736	33	10,229
Total	349,697	38	131,964	771,005	25	192,385	1,120,702	29	324,349

18. It is important to make a distinction between loss of employment, and the population whose lives are affected by this loss. A preliminary estimate is that the above loss in employment and the resulting income shock has affected around *1.64 million people* in the earthquake-affected districts.¹³ Addressing the short term needs of this vulnerable population for a period of six months, *assuming that food requirements are fully met* through a continuing relief program, would notionally require Rs. 3.5 billion (US\$58.7 million). This figure is arrived at using the national poverty line as a reference, netting out the food component.¹⁴ If basic food requirement is also included in the estimate, the amount will increase to around Rs. 8 billion (US\$133.5 million). In addition, an estimated Rs. 2.3 billion (US\$38 million) will be needed as a one-time grant to micro-entrepreneurs to help them rebuild lost assets (as explained in paragraph 30 below). Thus in aggregate, the total needs for livelihood support in the form of grants are estimated at Rs. 10.3 billion (US\$171.5 million), or Rs. 5.8 billion (US\$97 million) net of food support.

19. Finally, given the high incidence of remittances in affected areas, it is also important to consider the possible impact of the disaster on remittance flows and employment of migrant workers. The inflow of remittances can also be an important element of the coping strategies of households, particularly in the context of shocks suffered to other sources of livelihood. Among households receiving remittances, there is likely to be an impact on the flows, particularly if they rely on post offices and banks for transfer of money. In Muzaffarabad District alone, 9 out of 12 rural post offices are not functional. According to the State Bank of Pakistan, 230 branches were operational in the affected areas before the earthquake. 200 branches that were affected have resumed operations, while 18 have been completely destroyed. To the extent that households were relying on private networks to receive remittances, these networks also may have been temporarily disrupted. Employment losses among migrant workers are only likely in the event that they have to return to their homes to help their families to rebuild. The net impact of this on

¹³ This estimate is arrived at by applying the ratio of total number of employed persons to total population in affected districts, as reported by Census (1998).

¹⁴ The official poverty line was set at Rs. 674 of monthly household expenditure per equivalent adult at 1998-99 prices, which is Rs. 816 *per capita* at *current prices*. The food component of Rs. 457 at current prices is computed by multiplying the poverty line with the average share of food consumption expenditure among the poor. Subtracting this from the poverty line yields Rs. 359 per capita per month as the amount needed to meet basic needs, *net of food*.

livelihoods is uncertain, since it is equally likely that some of the migrants may decide to relocate their entire families outside the affected areas.

C. Reconstruction and Recovery Strategy

20. A disaster of this magnitude that has affected all types of public and privately owned assets critical for economic activity and employment, calls for a multi-sectoral approach. The livelihood rehabilitation strategy suggested below that is focused on the most vulnerable households and enterprises among the affected communities will be more effective if complemented by adequate investments in rebuilding public infrastructure like roads, post offices, schools, health clinics and provision of housing.

21. Reviving livelihoods and the local economies of affected areas necessitates a multi-pronged approach that rebuilds assets to generate income and employment, and protects the most vulnerable members of the community. Since the impact of the disaster is not uniform across affected districts and communities within districts, the overall support for livelihood will need to ensure that no affected community is left behind, which will be a significant challenge given the remoteness of certain areas due to the mountainous terrain. The challenge in the short-term will also be compounded by the onset of winter, which will likely delay reconstruction of permanent housing and infrastructure.

22. A livelihood support strategy should be geared towards the following objectives: (i) protecting the most vulnerable in the short-term; (ii) rejuvenating economic activity in affected areas – including reviving small businesses and trades and replacing assets lost in agriculture, including livestock; and (iii) creating employment opportunities for those permanently disabled by the earthquake, by providing training and skills enhancement programs.

Mitigating Vulnerability in the Short-run

23. **Cash grants.** Given the magnitude of losses in employment and its impact on lives, cash grants to affected families can help in mitigating vulnerability in the short-run. These grants should commence soon after the relief operations have stabilized, and take the form of a monthly livelihood/income support of a fixed amount, recurring over a period of four to six months. These will have the benefit of providing a full cash equivalent to households, offering them the flexibility to acquire goods according to their needs. The words of a farmer from Raj Khandi village (altitude: 5,500 feet, north of Muzaffarabad) attests the need for such flexibility in rebuilding lives: “we know where to get what we want to renew our lives – we just need the money”.

24. Given the shock sustained by district/local administrations, the ongoing challenges of providing emergency relief, and the impending onset of winter, initiating other forms of livelihood generation programs is likely to take some time. During this interim period, as experience in other countries has shown, cash grants can be effective in protecting the vulnerable, as well as in helping regenerate local economies by creating purchasing power in affected areas. The success of such a program, however, is predicated on the availability of adequate supplies to markets, and indeed the functioning of markets themselves.

25. The program should target households who have lost their capacity to earn livelihood, temporarily or permanently. Identification of beneficiaries should be based on clear eligibility criteria, and facilitated by community-level participation, for example through committees consisting of trusted community members. Targeting women can also be an effective option, since male members of many households in these areas are likely to be working elsewhere. The amount of assistance provided should be enough for an average family to acquire its basic necessities, which can be set with reference to the national poverty line for Pakistan. Monitoring will be essential to ensure delivery of assistance to intended beneficiaries and to minimize exclusion of the deserving. As other programs like cash for work

are put in place, and/or real employment is generated through the revival of local economies, the cash grants can be phased out. Some of the beneficiaries, for example the disabled, may however need extended support and should be integrated into the country's regular social assistance programs, like Zakat or Bait-ul-Mal.

26. **Cash for work.** Over a slightly longer time horizon, namely in four to six months, a cash for work program can be effective in generating temporary employment, along with rebuilding community infrastructure. Under such a program, those who are able and willing to work can be mobilized to undertake small repair jobs of public infrastructure, for an appropriate wage. International best practices suggest that such programs benefit the intended target group if wages are set below the prevailing market wage for unskilled labor, to ensure that those who are able and willing to work self-select into the program. The other guiding principles are a high share of wage cost in total outlays, which would imply the use of labor-intensive technologies, and to ensure that the community assets created is of value to the affected communities.

27. Given there is no large-scale public works program in the country, and the high rate of migration of adult male members in the affected areas, it is difficult to ascertain a priori whether people (and women in particular) will be willing to engage in manual labor. Demand for such a program may also differ across different areas within the affected districts. Carefully designed pilots will be necessary to assess these conditions before the program can be implemented on a large scale. A ready mechanism for such pilots may be available in affected areas where community infrastructure projects are currently ongoing.

Rebuilding Livelihoods in the Medium-term

28. **Microfinance.** While the options described above are geared towards short-term income support to provide a basic minimum need, generating sustainable livelihoods in a post-disaster situation critically requires reviving economic activities and markets. To jump-start this process, there is a need to replace lost productive assets, particularly for those entrepreneurs in the informal sector (like small shops and businesses) as well as livestock owners who are likely to lack access to commercial bank loans due to lack of collateral even in normal circumstances. This assistance can take the form of expanding microfinance coverage to include affected entrepreneurs and livestock owners. However, in the immediate aftermath of the disaster, grants may be extended to micro-entrepreneurs, particularly those who have experienced severe losses and have very limited access to formal channels of finance.

29. In Pakistan, the Rural Support Networks (NRSP in AJK and SRSP in NWFP) are already operating in many of the affected areas. NRSP, for example, has extended a large number of loans to small shop owners and livestock owners in the higher altitude areas of Bagh and Poonch districts, with a significant proportion of its clients being women. Such programs can be readily expanded and mobilized to deliver microfinance. An ongoing census of affected villages by NRSP can provide the basis for identifying the needs and beneficiaries of such a program.

30. A rough estimate for a one-time grant to micro-entrepreneurs (shop owners and livestock owners) to revive their livelihoods is around Rs. 2.3 billion (\$38 million). This figure is arrived at by taking around 10 percent of the value of direct damages to shops and 20 percent of value of livestock lost. The higher share of grant financing for livestock owners is justified by the fact that many of them are likely to be poor, subsistence farmers for whom the livestock represents the only productive asset. According to these estimates, 64 percent of grants will target livestock owners.

31. The success of initiatives to revive small businesses hinges on the rebuilding of the roads and transportation networks, to ease access to supplies and connect markets. Not having such complementary programs in place will likely lead to further erosion of markets, as investments will reduce, further reducing employment opportunities and purchasing power.

32. ***Skills enhancement for permanently disabled.*** The high incidence of severe injuries, many of which may lead to permanent disabilities, suggests a critical need for a strategy to rehabilitate and re-train such individuals. The immediate need is for medical rehabilitation and assistive devices to improve their mobility. Moreover, given the challenges the disabled will face in accessing services, special efforts should be made to ensure that they are not excluded from receiving relief packages, as well as benefits like cash grants. In the medium term, it is important to recognize that many of the disabled would have been engaged in physical activities like agriculture or livestock-rearing prior to the earthquake. The enormous challenge therefore will be to rehabilitate such individuals, through training in suitable vocations and employing community-based rehabilitation approaches. The recently announced national disability policy and the action plan must be swiftly adapted and operationalized to respond to the expanded needs created by the earthquake.