HPG Working Paper

The 2017 Nepal flood response

Resources beyond international humanitarian assistance

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Acronyms

ADB	Asian Development Bank
CDO	Chief District Officer
CERF	Central Emergency Response Fund
DAO	District Administration Office
DDRMC	District Disaster Risk Management Committee
DMF	Disaster Management Fund
DRRMA	Disaster Risk Reduction and Management Act
ECHO	European Civil and Humanitarian Aid Operations
EOC	Emergency Operation Centre
FTS	financial tracking system
GDP	gross domestic product
HPG	Humanitarian Policy Group
IACFP	Inter-Agency Common Feedback Project
IATI	International Aid Transparency Initiative
IFRC	International Federation of Red Cross
INGOS	international non-governmental organisations
IRA	initial rapid assessment
NDMA	National Disaster Management Authority
NFI	non-food items
NGO	non-governmental organisations
NPC	National Planning Commission
NPR	Nepalese rupee
NRNA	Non-Resident Nepali Association
NSDRM	National Strategy for Disaster Risk Management
OCHA	Office for the Coordination of Humanitarian Affairs
UN	United Nations
UNDP	United Nations Development Programme
UNHCT	United Nations Humanitarian Country Team
VDC	Village Development Committee

Executive summary

This study investigates how affected people coped with the impact of floods in southern Nepal in 2017, with a particular focus on resources – monetary and in-kind – beyond those from the international humanitarian system. The study focused on the worst-affected district, Saptari; days of constant rain in July and August 2017 led rivers to burst their banks, inundating houses and fields, blocking access and displacing thousands of people.

The research showed that the response of the Western international system (the UN and international non-governmental organisations – INGOs) played a minor role, accounting for around a sixth of the resources affected households said they received. A third came from family, neighbours and landlords, the government, the diaspora, or community-based organisations, including in-kind items such as shelter, food, cooking stoves and fuels. Another quarter was from other countries, with China reported as the main source, and Nepali NGOs, particularly the Nepali Red Cross, accounted for a fifth, though this may have partly been as subcontractors or partners delivering internationally funded assistance from the UN, international NGOs or the Red Cross/Red Crescent Movement. Volunteers and diaspora provided levels of financial support that had small absolute value, but which was important in terms of speed and appropriateness, and in the sense of community support and solidarity they provided.

Data on resources beyond international assistance was of poor quality, unavailable, difficult to compare and not reported in a timely way, if at all; decision-making was based on informal sources of data on resourcing and flawed assumptions that needs assessments incorporated the impact of wider resource flows on household vulnerability. While decision-makers would welcome more accurate and timely data on crisis resourcing from a wider range of sources, current systems, and future systems as currently conceived, are unlikely to deliver a meaningful data set.

Strengthening systems to take account of the wider resource picture requires action at different levels:

- At local level, the slow process of political federalisation resulting from the new 2015 constitution and its gradual rollout is weakening already-ineffective district coordination mechanisms. However, the vision of decentralised disaster management overseen by provincial and national disaster-management authorities would offer a potential platform for a more inclusive approach to preparedness and response across a wider set of actors, and greater investment into local-level coordination and information management, particularly linking to humanitarian clusters.
- At national level, the National Disaster Management Authority (NDMA) and the clusters are in principle the right vehicles through which to strengthen resource tracking, but their potential risks being undermined by delays in implementing the Disaster Risk Reduction and Management Act (DRRMA) passed in the wake of the 2015 earthquake.
- The Inter-Agency Common Feedback Project (IACFP) and cluster-level resource tracking are practical ways in which better account could be taken of household perspectives and existing resources, while also being realistic about the potential returns from investing in new systems.

Investing in better tracking may have limited impact without matching investment in information management, coordination and government capacity to make use of improved resource data alongside smarter use of data on vulnerability and response capacity.

1 Introduction

This case study contributes to the Humanitarian Policy Group's (HPG) research on 'non-traditional' sources of assistance in crises. The project tests the hypothesis that international humanitarian assistance, while often the most visible source of help, is not always the most significant to people affected by crisis, either in quantity (the value of what they receive) or quality (in terms of appropriateness and timeliness, for example). International assistance may only be the 'tip of the iceberg' of the resources households draw on in crises (Willitts-King et al., 2018).

This HPG Working Paper presents findings and analysis from six months' field research in Nepal looking into how affected people coped following major floods across South Asia during the 2017 monsoon season. The case study is illustrative of a disaster in a poor country facing multiple recurrent hazards in a context of underlying political fragility: flooding to varying degrees is an annual event, and communities have faced similar or worse floods many times in the last 10 years. However, this disaster was significant in national terms, affecting millions of Nepalis in the southern Terai region.

The international response was relatively small (the appeal of $40 million was 50% funded). Beyond international humanitarian assistance, sources of aid broadly fell into three categories:[1]

- Social networks (including remittances), access to finance (including loans) and livelihood adaptation (such as migration or shifting to casual labour).
- Non-formal/informal or 'non-traditional' sources of support, including volunteers, faith groups, youth groups, diaspora organisations and the private sector.
- National and local government assistance.

The primary aim of this research was to estimate and explore the relative importance of these different components of the response at household and system level, and how they related to each other. The research also addresses the important policy question of what a more holistic picture of sources of support in crises would mean for Nepali and international responders and decision-makers. While there is growing consensus in the aid sector around the importance of transparency and data in underpinning better interventions, there are still major gaps in our understanding of how data is used, and what data is actually factored into decision-making (Willitts-King et al., 2018). This has important implications for how responses are designed, and what systems exist or could be improved to support that decision-making.

1.1 Methodology

The study used a combination of a quantitative survey of 500 households in three affected municipalities and qualitative community mapping, focus group discussions, in-depth interviews and telephone interviews with affected communities, district and national authorities, businesses, and Nepali and international responders. These were used to construct a detailed picture of how people were affected by and responded to the crisis, in particular focusing on the resource inputs they received and relied on in the immediate aftermath of the floods, and in recovering in the subsequent months. The methodology is innovative in that it also maps the monetary value of these material inputs and places them in the broader context of people's livelihood strategies. In doing so, it looks holistically at the crisis from a household perspective, rather than through the more common lens of the international agency response. What emerges is a more complex and nuanced picture than previously documented.

The quantitative survey was designed to generate insights but not to produce statistically representative findings. The survey was carried out in three geographical areas (two rural and one urban):

- Rajbiraj Municipality (Deuribharuwa, Musaraniya).
- Tirhut Rural Municipality (Lohajara, Bhariya, Budhewa and Mainakareri).
- Tilathi Koiladi Rural Municipality (Sakarapura, Launiya).

The qualitative component of the study began with a scoping visit to Saptari in February 2018

1 These could broadly be referred to as 'non-traditional' from the humanitarian agency perspective but it is more analytically useful to break out the quite distinct categories that this encapsulates.

and piloting of tools and key informant interviews (KIIs) with cluster members of the District Disaster Risk Management (DDRM) committee (including representatives of the Red Cross Saptari Chapter), the Chief District Officer (CDO), members of civil society groups (such as single women's groups, and child and youth club members) and NGOs (e.g. the Koshi Victim Society) to gather information on the context. The second phase of the study consisted of further key informant interviews during 2018 with the Nepali police, municipality officials and local leaders, and focus-group discussions with men and women in affected areas, case studies and in-depth interviews with men and women and migrant workers on home leave, and Skype interviews with migrants from Saptari. At the national level, the study conducted key informant interviews with donor representatives, international NGOs, UN agencies, and representatives of the Ministry of Home Affairs, the Office of the Prime Minister and the Ministry of Finance.

2 Nepal and the 2017 flood

2.1 Political and economic context

In the context of the end of a 10-year civil war in 2006, a faltering peace process and political uncertainty, Nepal's interim constituent assembly eventually agreed a new constitution as a federal republic in September 2015. Elections to national, provincial and municipal assemblies took place in phases over the following two years, and the transition to a new provincial structure (from 35 districts to seven provinces) is still under way (Payne and Basnyat, 2017).

Nepal is a low-income country, with annual per capita gross national income in 2017 of $800 (World Bank, 2019). Foreign aid comprises up to 30% of the government budget (Government of Nepal, 2018), but the political transition may be unlocking economic growth after years of poor performance, with 7.9% growth in 2017. Remittances from overseas Nepali workers contributed 32% of GDP in 2015 (World Bank, 2016). Levels of inequality are high; economic and political power is concentrated in Kathmandu, but there is deep poverty in rural areas and divisions along lines of caste and ethnicity, and tension between the *pahadi* in the hills (traditionally the ruling class) and the marginalised plains (Terai/Madhes).

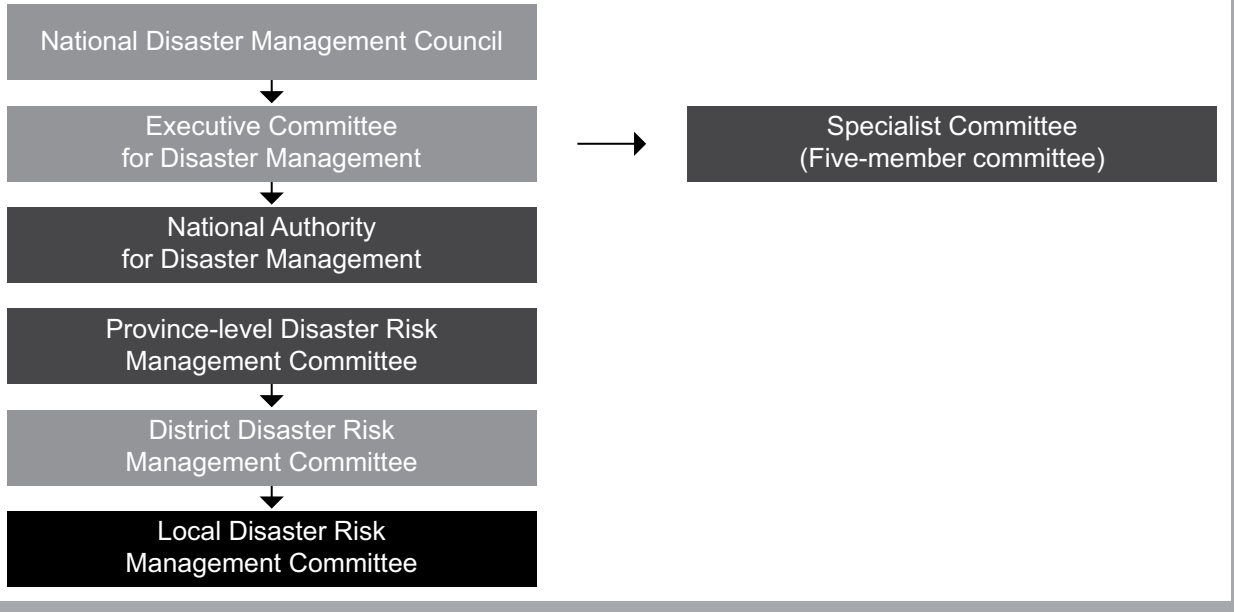
2.2 Legal frameworks

For many years the 1982 Natural Calamity (Relief) Act was the main legal instrument for disaster management in Nepal. Following a severe flood in 2009, the government developed a National Strategy for Disaster Risk Management. This integrated disaster risk reduction into sectoral development plans, alongside provisions for strengthening community resilience. For the first time, responsibility for disaster risk management and response was integrated into the responsibilities of multiple line agencies. Also for the

Box 1: Government policies and structures

The main legal and policy instruments guiding disaster response are the DRRMA, the Local Governance Act and the Disaster Assessment Guidelines (both 2016).

The DRRMA is the main policy instrument for disaster response. It contains provisions for the formation of the following committees:



first time, disaster management contained provisions for gender and social inclusion and decentralising functions to local entities. A National Disaster Response Framework was developed in 2011 as a tool for implementing and coordinating response planning across the four stages of disaster management (mitigation, preparedness, response and recovery). After years of delay, the 2015 earthquake prompted the passage into law of the DRRMA, with corresponding structures including the NDMA (see Box 1).

The DRRMA is a relatively new piece of legislation, and not all the committees it envisions had been formed when the fieldwork for this study was carried out in early 2018. District Disaster Risk Management Committees (DDRMCs), the main coordinated response body, consist of government line agencies as cluster leads, cluster members (mainly Nepali NGOs), representatives of civil society, elected political party members and other government line agencies.

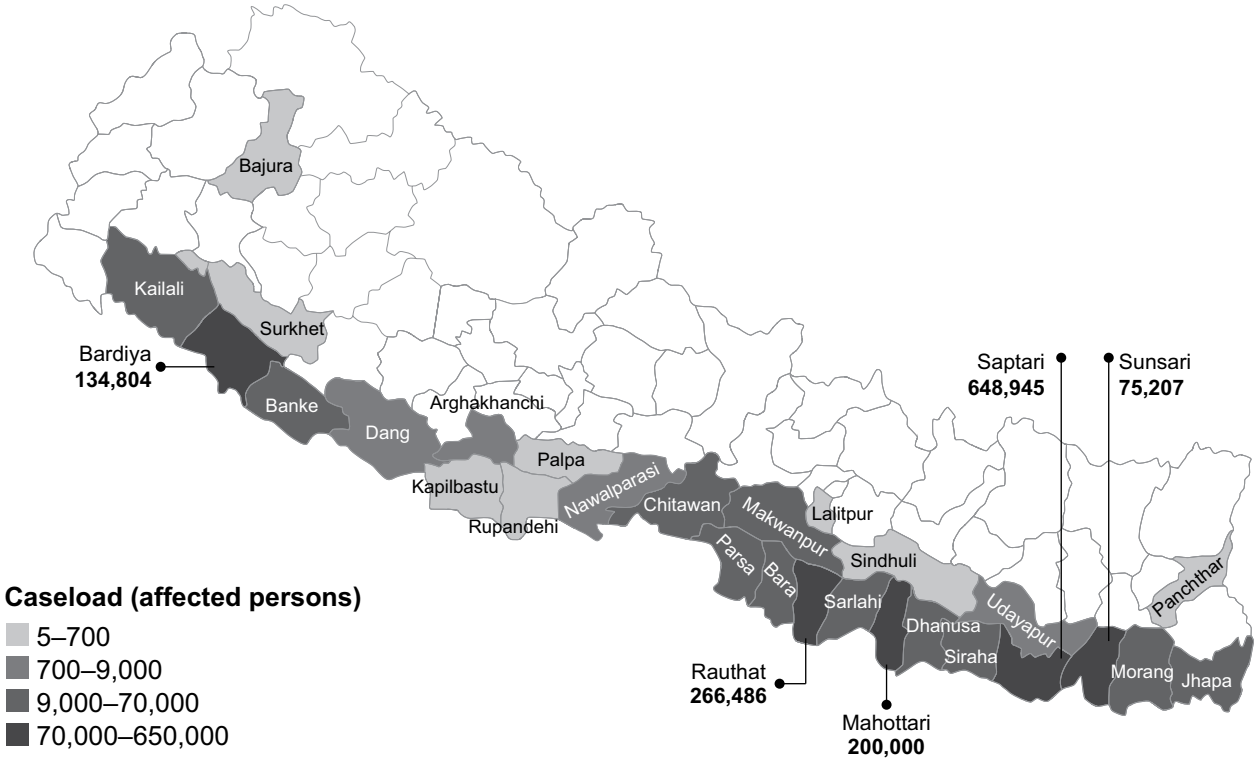
2.3 Hazard profile and the 2017 floods

Nepal is affected by a wide range of hazards. Earthquakes, though infrequent, have been extremely damaging; a recent earthquake in 2015 and its aftershocks caused over $7 billion in losses and killed nearly 9,000 people (National Planning Commission, 2015). Floods occur during the monsoon season between June and September, which accounts for 80% of annual precipitation (UN HCT, 2018).

During June–August 2017, Nepal experienced sustained, heavy rainfall, resulting in widespread flooding in 35 of the country's 75 districts (UNRC, 2017). Several districts recorded the heaviest rainfall in 60 years, and over 80% of land in the southern Terai region was inundated (NOC, 2017). An initial rapid assessment (IRA) led by the Ministry of Home Affairs indicated that 1.7 million people were affected in the worst-hit districts, 190,000 houses had been destroyed or damaged, tens of thousands of people displaced and household assets lost (NPC, 2017; see Figure 1).

The government activated the humanitarian clusters and mobilised security and civil service personnel to support the relief effort. While not launching a formal

Figure 1: Summary of flood effects



Source: Office for the Coordination of Humanitarian Affairs Flooding Response Plan August 2017–February 2018.

appeal, the government also indicated that it would welcome international assistance (see Figure 2). The government-led post-flood recovery needs assessment estimated medium-term recovery needs at $705 million (NPC, 2017).

2.4 Saptari: flooding and response at household level

Saptari, the focus of this case study, was the district worst hit by the floods, with an estimated 650,000 affected people (38% of the total in the country). It is a rural district dominated by agricultural production, particularly rice cultivation. One of Nepal's largest rivers, the Koshi, runs through the district.

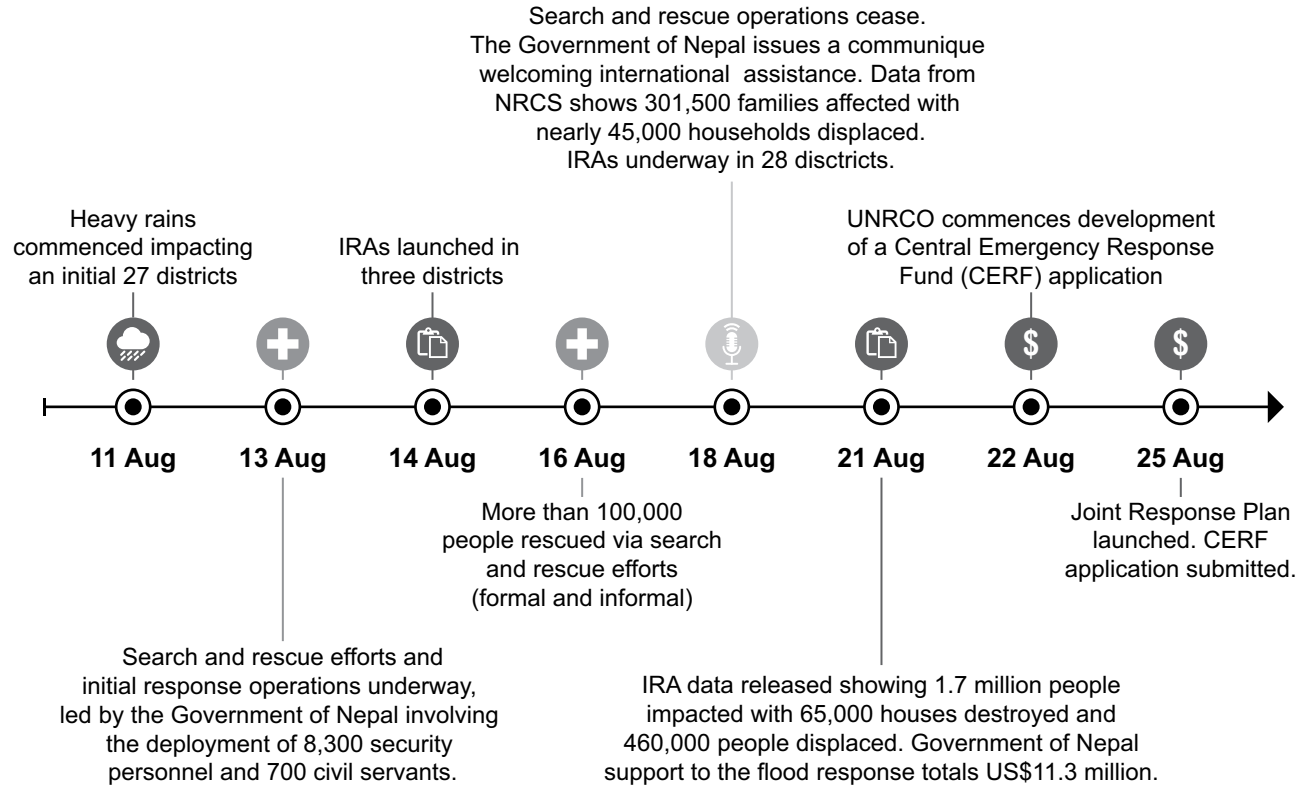
Figure 3 provides a timeline of key events as outlined by flood-affected people in Saptari.

The first flooding occurred between 29 and 30 June, after continuous rainfall for three days. An early warning system installed in the Koshi River Barrage was destroyed by the flood, so instead the government used information from the Emergency Operation Centre based at the District Administration Office (DAO) to activate cluster members and initiate the response. There was no functional siren system to make people aware of the rapid rise in water levels. In similar situations, the main sources of information are typically phone calls from relatives and friends, local radio, social media, word of mouth, and the security forces, but in this instance the electricity network was disrupted, leading to power cuts; people could not charge their mobile phones or use radios.

There were no preparedness plans, and people only started relocating when floodwaters actually reached their village:

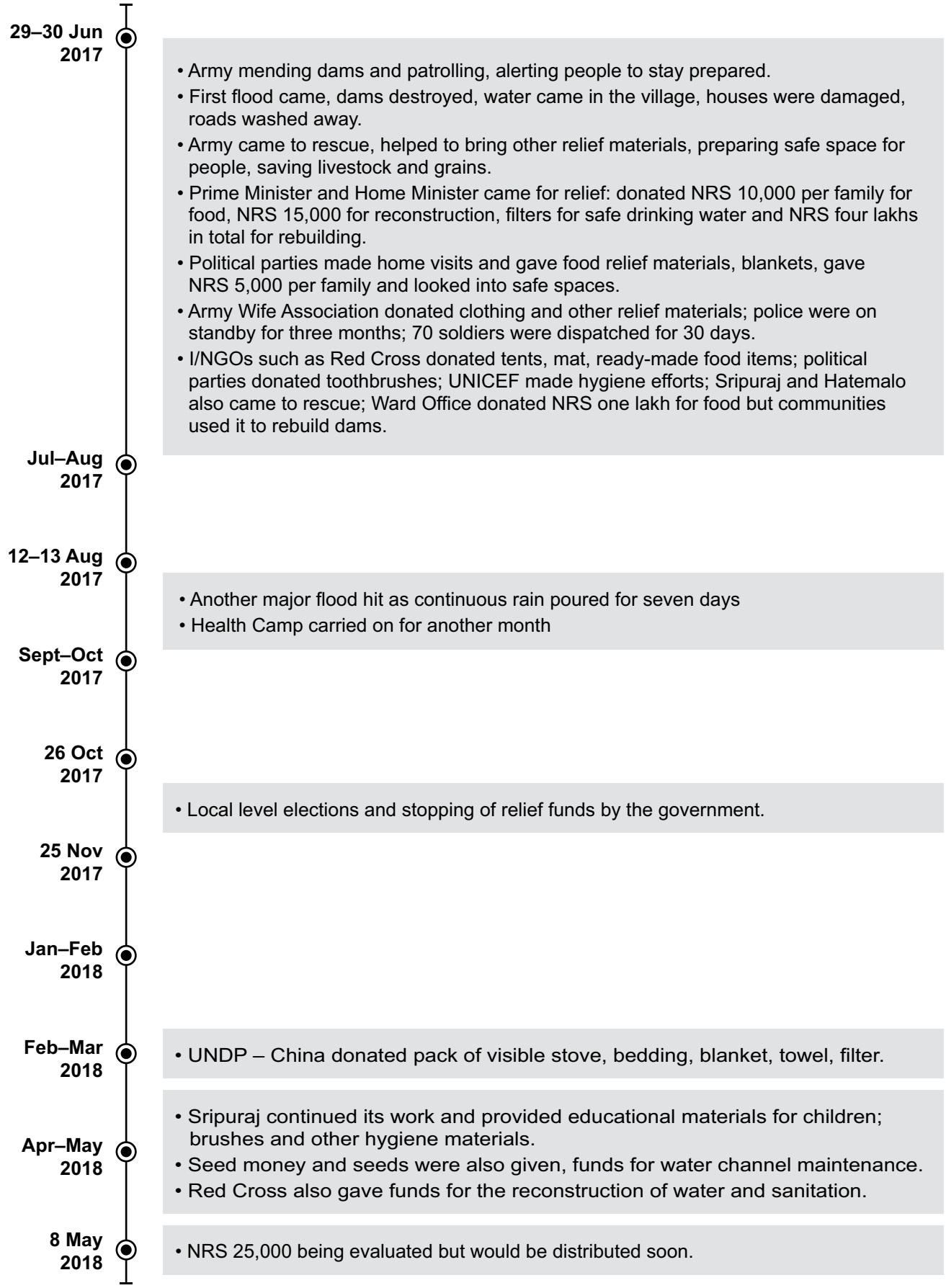
> *We heard from people that there was a huge rise in water level in the barrage and the nearby river and that villages on the other side of the road were flooding. The whole village went to the main highway to watch that. We sat there just watching the village on the other side of the road and the water in Koshi. But the water started coming towards our village. Everyone started running towards their house and the water was running with us. We had very little time to take anything with us. Most of us grabbed our kids and climbed on top of pucca [well-built] houses in the neighbourhood* (Interview with single women, Kankalini Rural Municipality).

Figure 2: Timeline of key events



Source: OCHA.

Figure 3: Community timeline of floods



Security personnel monitored the situation in flood-prone areas and, where there were temporary dams, made repairs and erected temporary defences:

> *The army and police were building dams on this river. They were here soon after the rain. They would construct dams with sandbags during the day and would patrol around the village at night. They used to walk around the village at night and ask us to remain alert. When the flood came, they helped us to relocate to a safe area, rescued our goods, animals, young kids and elderly people*
> (Focus group discussion (FGD) with men, Rajbiraj Municipality).

Highway construction on the Indian side of the border, completed in 2017, has obstructed water flow from Nepal to India through four rivers (the Mauli, Khado, Sundari and Tikya) in Saptari district and changed the rivers' course, placing communities not previously prone to flooding at risk. People in these areas had no prior experience of floods and were not included in the government's district disaster preparedness plan.

The first phase of flooding displaced people living nearest to riverbanks, and who lived in mud-built homes. People took refuge in neighbouring houses or public buildings, such as schools, local government offices, temples and mosques, and returned to their homes after a few days. Assistance for relocation and rescue and relief materials began to arrive within 1–3 days. A more extensive flood 20 days later destroyed homes already weakened by the initial flooding, caused significant damage to infrastructure (houses, roads), swept away belongings, livestock and crops, and displaced entire villages. People relocated to elevated verges along roadsides, took shelter in public buildings or went to other areas of higher ground. While some parts of Saptari such as Tilathi were less affected by the first phase of flooding, and people had gone back to their homes, in others people were living in tents when the second phase of flooding arrived.

2.4.1 The response in Saptari

Cash, material transfers, help for relocation and sharing of resources by neighbours were the main responses to the floods. Relief distributions by local institutions started soon after the flood in some areas, while in others people managed on their own for the first few days. Relief materials in this early phase consisted largely of dry food items and shelter materials, such as tents, mats and blankets. Some people also received cooked food from youth clubs/volunteers and security personnel. Subsequent distributions included clothes, food items such as rice, lentils, cooking oil and salt, utensils, dignity kits, blankets and nets. Further relief, both in the form of cash (from the government) and materials (from international and NGOs, community groups, the UN and other donors), arrived ahead of national festivals in September and October. Relief work halted following the announcement of local elections towards the end of October, before resuming in 2018.

All of the respondents to this study in Saptari reported receiving an immediate cash transfer of $19 per person for food. A smaller number, identified by the local verification committee as having had their housing 'badly damaged' by the flood, also received a second payment for food and clothes of $228 ($91 for food and $137 for clothes). A third category of transfer, for repairing houses identified as 'most affected', totalled $913.

3 Sources of aid

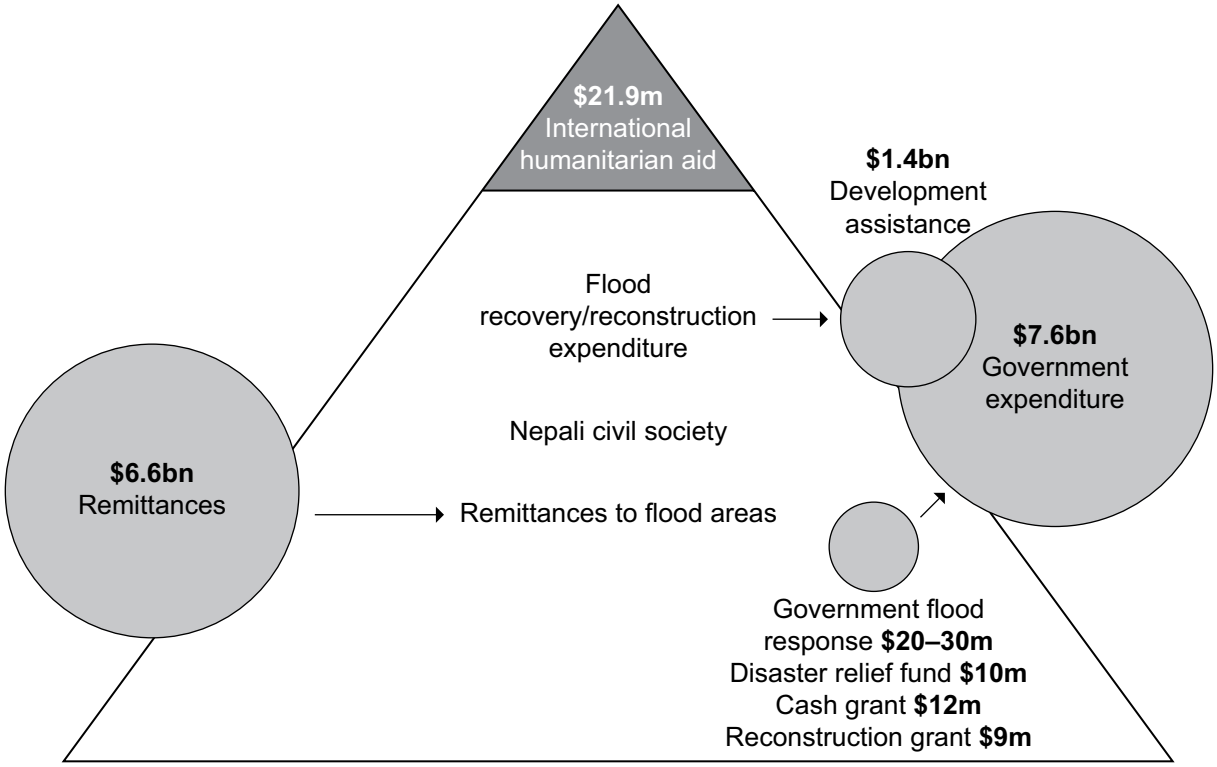
3.1 National and international resources

Publicly available data on international and national resource flows in the flood response is presented in Figure 4. International humanitarian aid was around $22 million, with an estimated $20–30 million in government flood response. Resource transfers from other public, private, national and international actors are impossible to determine – particularly what proportion of remittance flows went to flood areas, and the flow of funds through channels outside the international humanitarian system and the government.

International humanitarian funding to Nepal has been minimal in recent years, and the international response to the floods reported to OCHA's Financial Tracking System (FTS) was typical of this trend (the exception was the response to the earthquake in 2015, which saw contributions of over $500 million: see Figure 5). In August 2017, the Humanitarian Country Team (HCT) announced a request for $41.4 million to provide immediate humanitarian assistance to 1.7 million people for the following six months. FTS reports contributions of $26.4 million in total funding for 2017, including approximately $16 million specifically for the flood response. A $4 million contribution from China via the UN Development Programme (UNDP), and an earlier Chinese contribution to the government of $1 million, were not recorded on FTS (UNDP, 2018). The bulk of international funding came from long-standing humanitarian donors – European Civil Protection and Humanitarian Aid Operations (ECHO), the US, Switzerland, Australia and the UN CERF, which between them accounted for 70% of the total (see Figure 6).

Although government reporting on actual expenditure is not available, based on key announcements in November 2017 and May 2018 funding for the

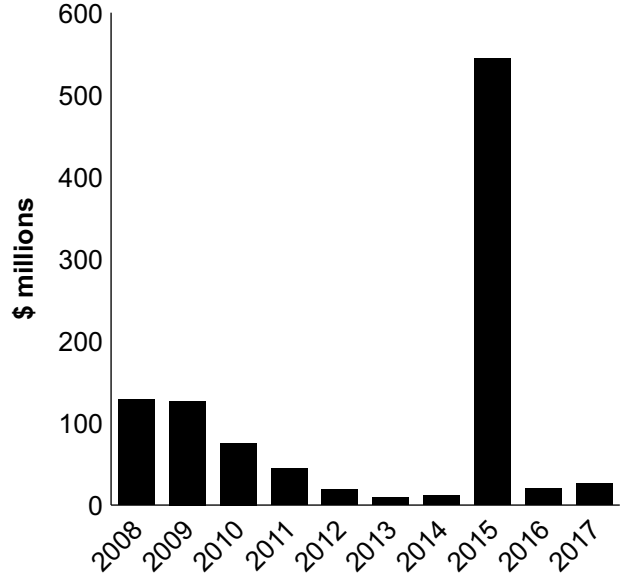
Figure 4: Resource breakdown for the flood response



Note: Figures are estimates from multiple sources, as cited in text.

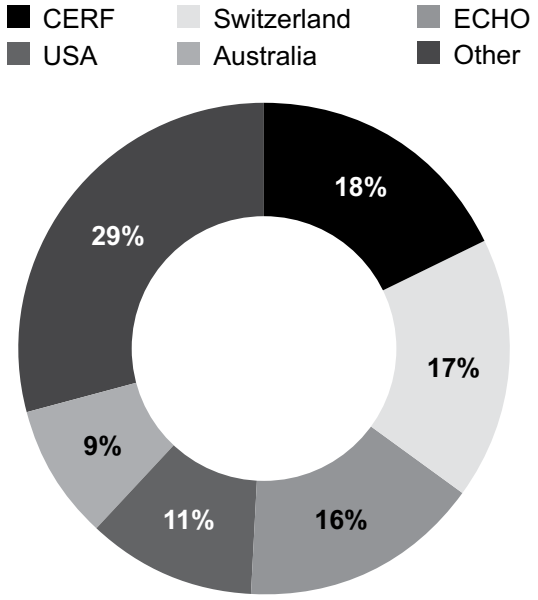
immediate response and for reconstruction can be estimated at $20–30 million. In November, the Council of Ministers estimated funding needs for short-, medium- and long-term response at NPR 73 billion ($645 million). It was also announced that the 41,626 households whose homes were completely destroyed would receive NPR 15,000 ($140) for reconstruction and NPR 10,000 ($93) to buy clothing for the approaching winter. The government also planned to provide fertiliser and seeds to 191,766 families and wood for house reconstruction. Funds were to be channelled through the Disaster Management Fund (DMF) to the District Disaster Risk Reduction Management Committee, and then on to beneficiaries. The following May, the Ministry of Home Affairs announced that the District Disaster Risk Reduction and Management Committee would provide immediate relief of 1 lakh (NPR 100,000/$930) to relatives of the deceased, NPR 10,000 for families whose livelihoods or food stocks had been destroyed, NPR 15,000 for livelihood restoration and NPR 50,000 in support in case of displacement due to damage to the family home and loss of food supplies and clothes. In 2017, the Asian Development Bank (ADB) reported that the government had announced compensation of NPR 200,000 to each bereaved family, and another NPR 70 a day for a month for each person affected. The Prime Minister's Disaster Relief Fund also released $10 million to the Central Disaster Relief Fund managed by the Ministry of Home Affairs for flood victims (ADB, 2017).

Figure 5: International humanitarian funding to Nepal by volume



Source: FTS.

Figure 6: International humanitarian funding to Nepal, 2017



Source: FTS.

3.2 Other sources: remittances, local organisations and informal actors

Beyond international and government spending, resource transfers through local organisations, remittances, the private sector and informal actors all played a part in the flood response. International and national data sources are, however, limited, and the primary insights outlined here are from the survey and household interviews for this study.

Informal actors such as landlords, neighbours, local groups, including mothers' groups, student groups, clubs and local religious groups (such as hymn groups – *bhajan samuha*), provided support, most of it in-kind. Such philanthropic activities are common in Nepal – not just faith-based, but also through wider social networks and patron–client relationships. The DRRMA (2017) positions local actors as important stakeholders in disaster risk management, and groups such as local transporters' associations and builders' and business associations are part of local disaster committees. No data is available for 2017 on the contribution of informal actors such as family and friends, employers, landlords and money-lenders, all of which play an important role in buffering households against emergencies through solidarity, assistance, labour support and presence. These resources are discussed further in the next section.

Remittance data is available from the World Bank based on official flows through registered channels. Nepal is the highest remittance-receiving country in the world in terms of percentage of gross domestic product (GDP), which grew from 1.5% in 1993 to 32% in 2015, or $6.7 billion (World Bank, 2016). It is not possible to disaggregate remittances by district, or glean to what end remittances were transferred – in particular what proportion was used for flood response.

3.3 How did people cope at household level?

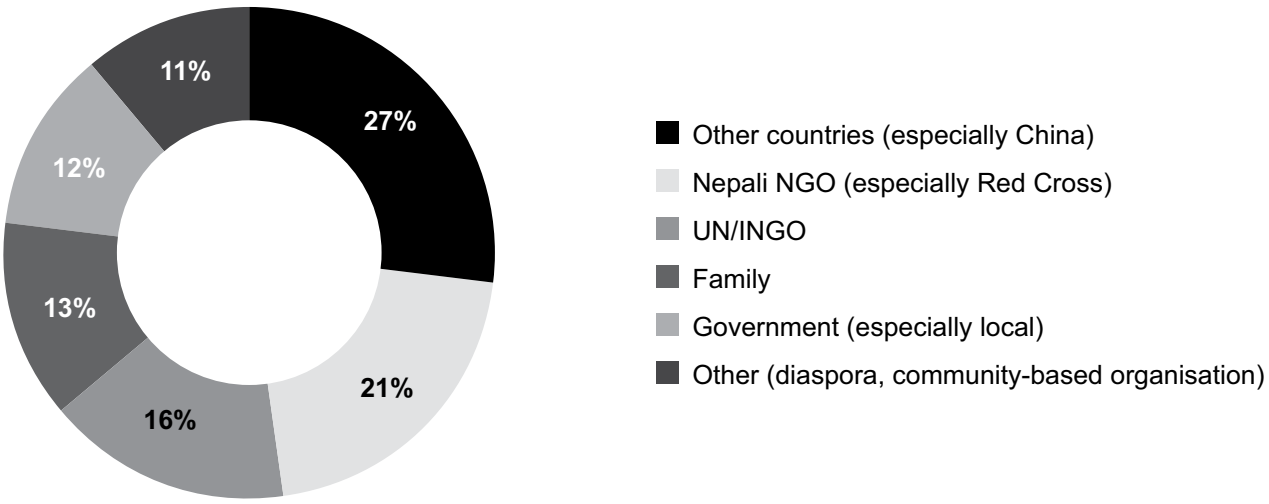
At household level, the survey shows that relief assistance from a diverse set of actors formed an important part of the response. Table 1 shows these various actors, the kind of relief they provided and how people perceived this support. This is the closest proxy for actual support received given the lack of other aggregated data at household level. While this limits accuracy, its value lies in providing a holistic picture of the range and relative importance of different sources of help.

Household data confirms the flow analysis at system level, namely that formal international actors provided a fraction of the total assistance households received, with 84% coming from other sources (Figure 7). It should be noted that recipients would not be aware of or likely to report that assistance from the Nepal Red Cross, Nepali NGOs or local government may have originated in international donor funds transferred via the International Federation of Red Cross and Red Crescent Societies (IFRC), UN agencies/international non-governmental organisations (INGOs) or through bilateral donor support to the Nepali government. It is also the case that this was not a major international response involving the large-scale mobilisation of international resources. A key question is the degree to which these other sources could be scaled up in a major emergency, and whether international support complements or substitutes for other sources.

The average flood-affected family received NPR 15,051 ($130) in support; the range is zero to NPR 100,000, but clustered between NPR 5,000 and 20,000. Sixteen per cent of this was identified as coming from the UN or INGOs. The single largest source was China – this may be related to a distribution by China Aid shortly before the survey, and was therefore easily recalled – followed by Nepali NGOs (primarily the Nepal Red Cross). Family and local networks accounted for almost a quarter of the response in terms of reported value.

The total level of support is small relative to household consumption – approximately 5% of the annual average, suggesting that aid in general is not a major resource compared to self-mobilised resources. The annual average consumption of a Nepalese household in 2015/16 is NPR 322,730. Out of total household consumption, 53.8% goes for food, followed by rent (12.9%), education (4%), alcohol and tobacco (3.9%), durables (5.5%) and utilities (2.2%). The remaining 17.8% goes on other non-food spending.

Figure 7: Sources of assistance reported by households (average value %)



Source: Based on HPG survey.

Table 1: Source of support and kind of help received

Source of support	Total households receiving this support	Percent of sample population	Specific organisations			Cash	Kind	Loan	Psycho-emotional supoort
Relatives/ community	144	29				12	114	4	14
			VDC	District/ province	Federal				
Government	208	42	146	71	1	85	121	0	2
			Red Cross	Other NGO					
Nepali NGOs	301	60	286	48		6	284	0	11
Private companies	1	0					1		
			UN	INGO					
International agencies	157	31	77	108		16	141		

Source: Fieldwork, 2018.

Table 2: Total value of all support by group (NPR)

	Number of observations	Mean support received (NPR)
Full sample	497	15,051
Terai Dalit	214	16,927
Terai Janjati	99	10,698
Terai Brahmin	22	19,241
Others	162	14,664
Male-headed	385	14,865
Female-headed	112	15,691

As Table 2 shows, the variation in support across different groups is notable – with Terai Janjati (such as Dhanuk, Amat and Kisan) receiving 29% less than the average, Terai 'Others', such as Kori, Teli, Dev, Thakur, Kewat and Koiri/Kushwaha, receiving 3% less than average, and Terai Brahmins receiving 28% more than average. Madhesi-Dalits such as Ram and Harizan received 12% more than average. This is corroborated by evidence from interviews, which suggests that higher caste Terai Brahmins, although generally better off, are also better able to access assistance; Dalits are identified as a marginalised group and targeted for assistance, but the indigenous Madhesi are not so well placed to access resources, and so may be worst off in the absence of either direct targeting or the right social networks to access assistance.

3.3.1 Perceptions of the value of assistance

The survey also highlighted the importance of different types of assistance beyond simply monetary value. Based on respondents' accounts of the support they received, the most important actors in Saptari were Nepali NGOs (primarily the Nepal Red Cross), which almost half of households surveyed cited as one of the three most important sources of support, followed by the Chinese government, local social organisations and the Nepali government (Table 3). Among government entities, respondents perceived the local administrative level (the Village Development Committee – VDC) to be the most active, while they knew less about the involvement of the federal government.

Respondents had mixed views about the quality of relief. Overall, they were happy with material transfers aside from some minor comments on utensils (for example serving spoons being too small). Women found the plastic storage drums provided very useful for storing food grains, clothes and children's books, to preserve them in the event of future floods. Men generally felt that the fact that relief came immediately after the disaster was much more important than its monetary value:

> *It [relief] came at the time when we needed it the most. Be it a handful of puffed rice or beaten rice. It was the most important support for us at that time. So, we are happy with what came* (FGD with men, Rajbiraj Municipality).

3.3.2 The role of informal and non-traditional actors

The earthquake in 2015 was a turning point for disaster response in Nepal. Unable to cope with the huge demand, in addition to international assistance the government asked for the support of the Nepali private sector. What was not anticipated was that

Table 3: Most important sources of support

	Number of people reporting	% of sample
Nepali NGOs	245	49
Governments of other countries (primarily China)	202	40
Others (social organisations)	172	34
Nepali government	167	33
International agencies	133	27
Relatives/community	104	21
Private companies	6	1

informal actors – such as student groups, civilians from other districts, children's clubs and youth groups – raised funds and provided goods. The Association of Youth Organizations of Nepal mobilised thousands of volunteers, and a young engineer set up a network of fellow professionals to assess damaged buildings (Glencorse and Shakya, 2015). As a result, when the floods hit two years later there was already a culture of support from other districts and the Nepali diaspora.

> *Lots of people would come from Kathmandu or Biratnagar. They would hand us relief materials to distribute and go back the same day. People who had connections with Saptari people went to the community themselves through such connections. Some others would give what they had brought to the police. We had stored relief in the police station. There was a lot of help from such groups soon after the flood*
> (KII with member of DRRMC, Saptari).

Some informal actors such as private sector and civil society groups are acknowledged as important in the new DRRMA, and have worked actively as cluster members in Saptari in early warning, rescue and relief activities. Other informal actors, such as family and friends, community youths, landlords and employers, diaspora and informal money lenders are yet to be acknowledged and included in the formal response system.

3.3.3 The role of the diaspora and remittances

Of the survey households, 28% reported receiving remittances over the previous year, and remittances were listed as the most important source of income by 14% of the sample, the third most popular category after casual labour and own cultivation. This suggests that, for households that receive them, remittances are critical to making ends meet.

It is not clear whether remittances increased significantly following the floods as has been observed in other disasters, including the 2015 earthquake (Bryant, 2019). Interviews suggested either that remitters were already sending what they could, or that households did not want to make themselves ineligible for assistance by virtue of receiving other forms of support. There was active diaspora engagement in the response. For example, some Nepali migrant workers are sons of landlords in affected areas, with well-paid jobs and wide social networks in their countries of work, and sent money both to the national disaster fund and to people in Saptari (see Box 2).

The Non-Resident Nepali Association (NRNA) is a diaspora organisation with 30 chapters of Nepali business diaspora. While its overall contribution was small, totalling a reported $349,136, and it was not present in every district, interviews showed that it was well-regarded for the speed and appropriateness of its aid.

Box 2: Helping home: the diaspora contribution in the 2017 flood response

Mr K (name changed) works in a managerial position in a bank in Doha, Qatar. His brother works in the same position in another bank, and his other brother studies and works in Europe. He also has a number of extended family members working in Dubai and other cities in Qatar.

Mr K keeps himself abreast about his hometown, Rajbiraj, through phone calls with family and friends. He also keeps himself updated about news from Saptari district and Nepal. He knew about the continuous rainfall and onset of the flood in the 2017 monsoon season, and the damage it was causing. He spoke to his non-Nepali colleagues in the bank and started collecting funds. 'It was not difficult. People easily give 20–100 Riyals. This is not a big amount for them. It has higher value when we convert it to Nepali Rupees.' His friends and extended family members and others from Saptari living in the United Arab Emirates and Qatar also started sending him money. 'This usually happens – it was not entirely new. We often help Nepalis who are in distress in Doha, e.g. who are sick and need money for returning home and so on. Everyone gives something small and what gets collected is a significant help'. On asking how he contacts other Nepalis, he points to 'social media, phone calls, family and friends networks, word of mouth from those who have helped', as well as 'meeting them when Nepalis gather in parks or malls during holidays. This is a good place for meeting other Nepalis and all Nepalis use this space to garner help. They approach each other and everyone helps. It is a normal thing'. Money is sent to a trusted individual in Saptari, who uses it to buy and distribute relief materials, and funds are also deposited in the Prime Minister's Relief Fund. The distributer records his work on video.

Source: Fieldwork, 2018.

Nepalis working abroad also sent money to relatives, who would then distribute goods and money to people in need:

> *My sons sent money after hearing about the flood. They told the mother to give it to people in our community. We had tenants whose houses were damaged and had lost their clothes and food due to the flood. My wife brought clothes and food. She went to their village and gave it to them*
> (Individual interview).

3.3.4 Household livelihood and coping strategies

A key theme of the research is the degree to which affected people are active economic agents, adapting to new needs using multiple coping/livelihood strategies. The first line of response is communities themselves, with people seeking help within their own social networks. As predominantly agricultural communities, the impact of the flood on harvests was significant, but the timing of assistance did not necessarily correspond to when this impact was most felt in terms of reduced household resources. The flood washed away crops and deposited silt in fields. Fishponds, another main source of income, overflowed and fish escaped. Large landholders in particular suffered heavy losses and had to purchase rice and other foodstuffs, reportedly for the first time in their lives. Sharecroppers took out loans to tide themselves over, which they paid back in cash instead of crops.

The price of agricultural inputs increased as people had to buy seeds and fodder for livestock, which previously they sourced from their own fields. People also reduced spending on education, business investment and family welfare, and were more likely to consider child labour. New needs as a result of the floods exacerbated existing discriminatory practices in some cases:

> *I have two daughters. One is already out of education. There is no money to educate the second one. I have to pay a lot of fees for my son who is studying engineering in Kathmandu. I have heard the government is giving loans to flood victims. I will use that for him. I will have to take my daughter out of school*
> (Individual interview).

According to respondents, the largest additional costs were associated with rebuilding homes. However, due to lack of funds, fear of further floods in the next monsoon and in anticipation of a cash transfer from the government, people made only temporary repairs. Corrugated sheets were distributed by the government and other organisations in many affected areas, helping to make houses liveable. A significant proportion of respondents (31%) only partially restored their houses after the flood, say that 'they needed a roof over their head immediately, whatever it cost', rather than waiting for assistance. In Lohajara, people were reluctant to restore toilets and resorted to open defecation, saying that the dams near their community were still temporary rather than permanent structures, and they feared that these patched-up facilities would be washed away again. Removing silt from land was another additional cost; only 6% of respondents in the survey had fully restored their land.

As food aid was the main form of assistance by volume, from both traditional and non-traditional actors, its provision reduced food insecurity immediately after the flood for a few months, but because that year's harvest was destroyed, people had to buy food the following year. Further food aid following the elections at the end of 2017 came from agencies including China Aid and the US Agency for International Development. This may explain why, despite crop failure, people in areas where fieldwork was conducted felt that their food security had improved: 81% of people reported an increase in food security a year after the flood.

With reduced opportunities to farm their land, poorer households took on casual labour in agriculture and non-agricultural sectors. After the flood, non-agricultural casual labour was the most important source of household income for 33% of respondents, with casual labour in agriculture and fisheries the second most important income source. For example some households sent young family members out to work in shops, hotels and repair centres in neighbouring cities and the capital, Kathmandu. The study did not find people leaving Nepal for work due to the flood: while this would have been a source of income, people lacked the up-front funds to pay for travel and could not take out a loan using their land as collateral because it was covered by silt and hence a much less valuable asset. Women engaged in wage labour and elderly relatives took care of household work. The research showed that incomes had declined, but that there had not been a significant sectoral shift in livelihoods due to the flood. This decrease in income might be due to the fact that most people are dependent on agriculture creating competition for jobs and lack of demand for agricultural labour (e.g. for weeding and harvesting rice) due to land being left fallow.

Table 4: Sources of credit over the previous 12 months

	Number of people reporting	% of sample
Family/friends	143	41
Formal lender, cooperative or bank	42	12
Informal money-lender	64	18
Landlord/employer	98	28
Other	4	1
Savings group	3	1
Total	**321**	**100**

3.3.5 Different vulnerabilities

Given these various livelihood strategies, and different types of national and international response, there were mixed views regarding who was most vulnerable to the impact of the floods. The majority of people identified the following as most vulnerable: single women, families containing elderly members, elderly people living separately from their children and households with a large number of dependent children. These groups faced challenges from the outset of the floods in relocating to safer places, and were also more likely to have weaker coping strategies, fewer assets, less mobility and less access to support. They were also the most likely to be excluded from relief:

> *They distributed relief that came in our name in another village far from here. There is no one to take care of my child. So, many times, I did not go to get my relief*
> (Interview with single women, Tirhut).

Households close to riverbanks were often the first to be affected and lost most of their assets. People living in thatch houses tend to be affected more than those with houses made of cement.

In an agricultural society like Saptari, patron–client relationships act as a social asset for the poorest during times of distress, such as the 2017 flood. Households are in a mutual relationship of labour and patronage, whereby the poorer tenant provides labour for the landowner, who in turn helps the tenant during difficult periods. While out-migration and the movement of people from agricultural labour to off-farm labour has changed this relationship, it has not been completely replaced, and these networks have played an important role in the aftermath of the floods.

Analysis of borrowing habits as described in Table 4 shows that the major source of loans is family and friends, followed by landlords, employers and informal money-lenders. Only 12% of people used formal systems and this was for larger loans for investment in additional land and fishponds. People tend not to borrow from micro-finance and savings groups due to previous experience of cheating, comparatively high interest rates and stringent penalties if loans are not paid back on time.

A large majority of respondents (73%) said that some form of collateral was required to obtain a loan, though this was generally in relation to larger borrowing, for example for health expenses, rather than smaller amounts, such as for household expenses. Collateral ranged from written papers and Memorandums of Understanding to another individual guaranteeing the loan. For formal borrowing people used jewellery, land and their home as collateral. The fact that people do not need to pay

Table 5: Sources of business investment

	Number of people reporting	% of sample
Family/friends	112	35
Formal lender, cooperative or bank	45	14
Informal money-lender	50	16
Landlord/employer	110	34
Other	2	1
Savings group	2	1
Total	**321**	**100**

interest on smaller amounts makes this an important source of help. Single women and women with migrant husbands who participated in the research borrowed small sums from neighbours, paying them back when they had the wherewithal to do so, such as after the harvest, when crops are sold.

An important characteristic of informal actors (family and friends, landlords and employers and informal money-lenders) is their perceived reliability. People are confident that they will receive support, with 77% of respondents saying they would be able to secure loans from these sources.

3.3.6 Political economy

The political economy of resource distribution in relation to the floods demonstrates how critical it is to consider the multiple power relationships between sources and recipients. The layers of inequality between and within different groups, with the additional factor of the local elections that were held during the relief period, made for a complex set of dynamics.

In IACFP community perception surveys in 10 priority flood districts, 8% of respondents who received assistance reported being asked to do or give something in exchange for support – 90% of this group were asked to provide a vote or political support in exchange for relief (IACFP, 2018). There is a strong conviction among affected people that the best and most substantial amounts of relief went to family members of local leaders and VDC secretaries, and to individuals close to political leaders. People felt that higher-quality relief materials were passed to relatives of local leaders at night.

> *During the day, they say they do not want the relief materials and they can be given to the poor and needy. The relief materials were stocked in the school there. At night, they would quietly give all the good materials to their family members* (FGD with beneficiary men, Tilathi Rural Municipality).

Respondents, irrespective of gender and socio-economic status, felt that beneficiary lists were biased:

> *The team would come and meet the leaders here. The leaders would only put names of those who are near to them and their party people. Houses having old people, women-headed and where there are no men around do not get any information. No one went door to door collecting information* (Focus group discussion (FGD) with women, Tilathi Koiladi).

Other respondents complained that, although they were included in village lists, they were removed when the list went to the local VDC office. There were also significant problems around beneficiary lists for cash transfers, and there were major delays in local government in Saptari distributing the reconstruction allowance of NPR 25,000.

4 Resource data and decision-making

The picture that emerges from the field research is that understanding a wider set of resources is critical in a response, but that data availability is a problem. A crucial question is therefore the extent to which existing or enhanced data on resources is actually informing decision making.

4.1 Why track data in Nepal?

Willitts-King et al. (2018) set out a number of assumptions around why decision-makers want to track resources, including assessment, targeting, coordination and fundraising. Table 6 details these assumptions and considers the evidence in Nepal.

4.2 Data availability

As detailed above, data sources are patchy, fragmented and lacking in detail. As Figure 8 shows, this is connected to the multiple processes of coordination.

International sources such as FTS and the International Aid Transparency Initiative (IATI) lack timeliness and comprehensiveness, reflecting the fact that they were not designed to be operational tools tracking resources in real time in a way that could support rapid decision-making. They are also only as good as the data entered into them, which is still very limited (PWYF, 2018). The IATI 'front-end' – such as the d-portal – has not yet created a positive feedback loop where users can derive useful information which would encourage them to submit more detailed data themselves. Considerable attention is being paid by

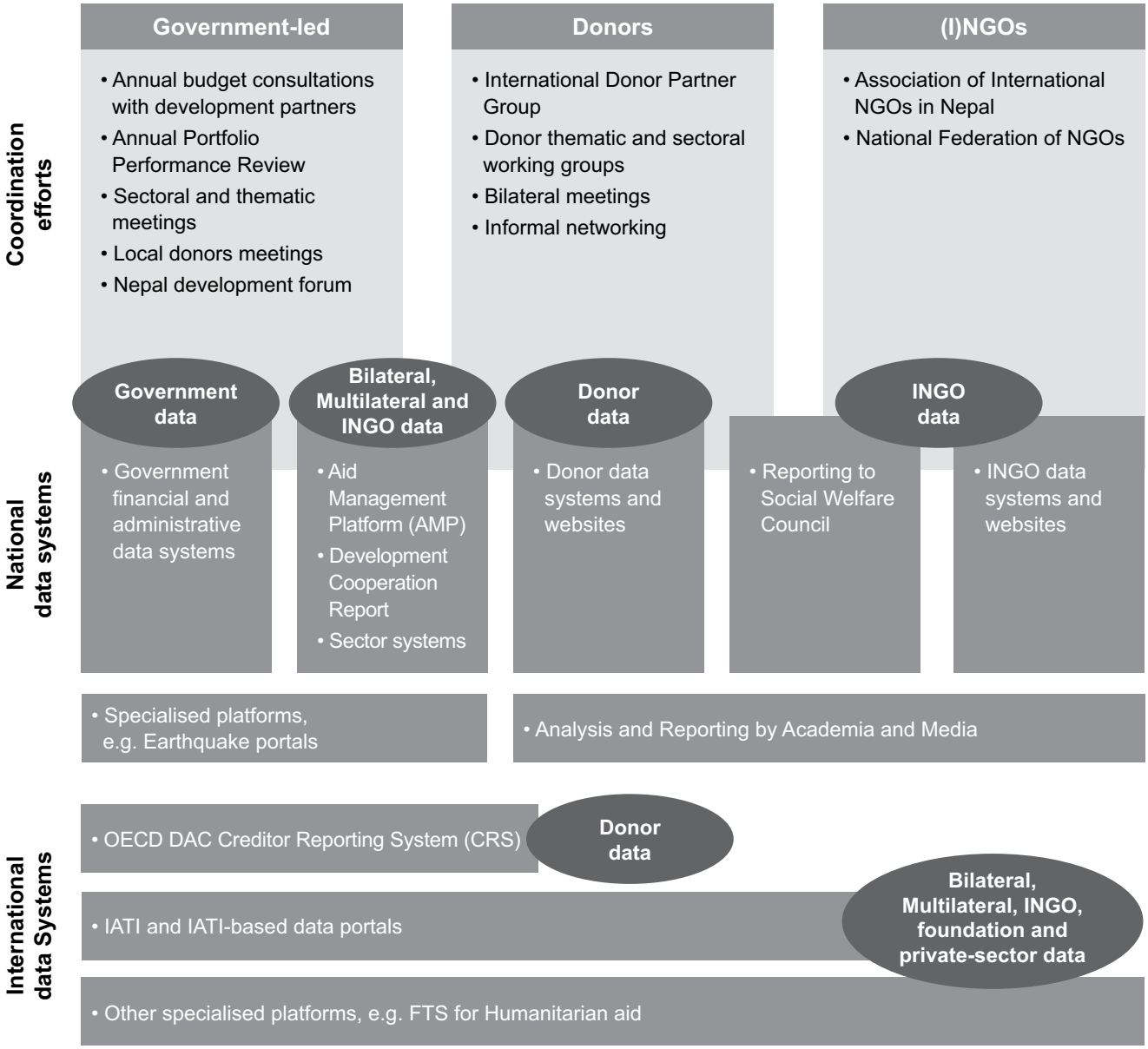
Table 6: Assumptions and evidence on resource tracking

Assumption	Evidence in Nepal
Better-quality and more comprehensive evidence on the full range of financing flows would facilitate more efficient targeting of relatively high-value aid resources and enable more rational division of labour based on comparative advantage, including between humanitarian and development actors.	No evidence that more data is resulting in better targeting.
Greater transparency in tracking resource flows can drive efficiency – including cost-efficiency – gains through the humanitarian response system.	Unclear whether transparency is driving efficiency.
Greater transparency around resource flows through the humanitarian system will drive changes in financing behaviour, leading to greater efficiency and fairer terms for local and national actors.	No evidence that transparency is leading to fairer terms for local and national actors.
Tracking funding to local and national actors will help to incentivise international actors to meet their commitments to provide more direct funding to local and national actors.	No evidence that international actors are incentivised by better tracking of local funding.
Tracking funding contributions is a fundamental tool to enable a coordinated needs-based financing response.	Appeal not used in this operational way.
Tracking and providing public recognition for financing contributions provides an incentive for increased giving.	No evidence that public recognition incentivises increased giving.
Transparency builds confidence in the aid system, which reduces disincentives to funding.	No evidence around confidence in system.

IATI and the Grand Bargain transparency workstream to data use rather than data collection.[2,3]

These sources also do not track national and local actors. Where this has been attempted, it highlights the challenges: a pilot scheme set up after the 2015 earthquake by a Nepali technology firm, Young Innovations, did not elicit high-quality data from national and local organisations despite considerable efforts.[4] An exercise by Development Initiatives after the 2015 earthquake showed that further detail could be obtained on subcontracting relationships between donors and the multiple layers of international and national organisations responsible for implementing projects (DI, 2016). It also demonstrated the significant amount of resources needed to generate even this limited level of detail, with little information on publicly available databases or in comparable formats, necessitating forensic tracking work with financial reports and individual agencies.

Figure 8: Aid coordination processes and information sources in Nepal



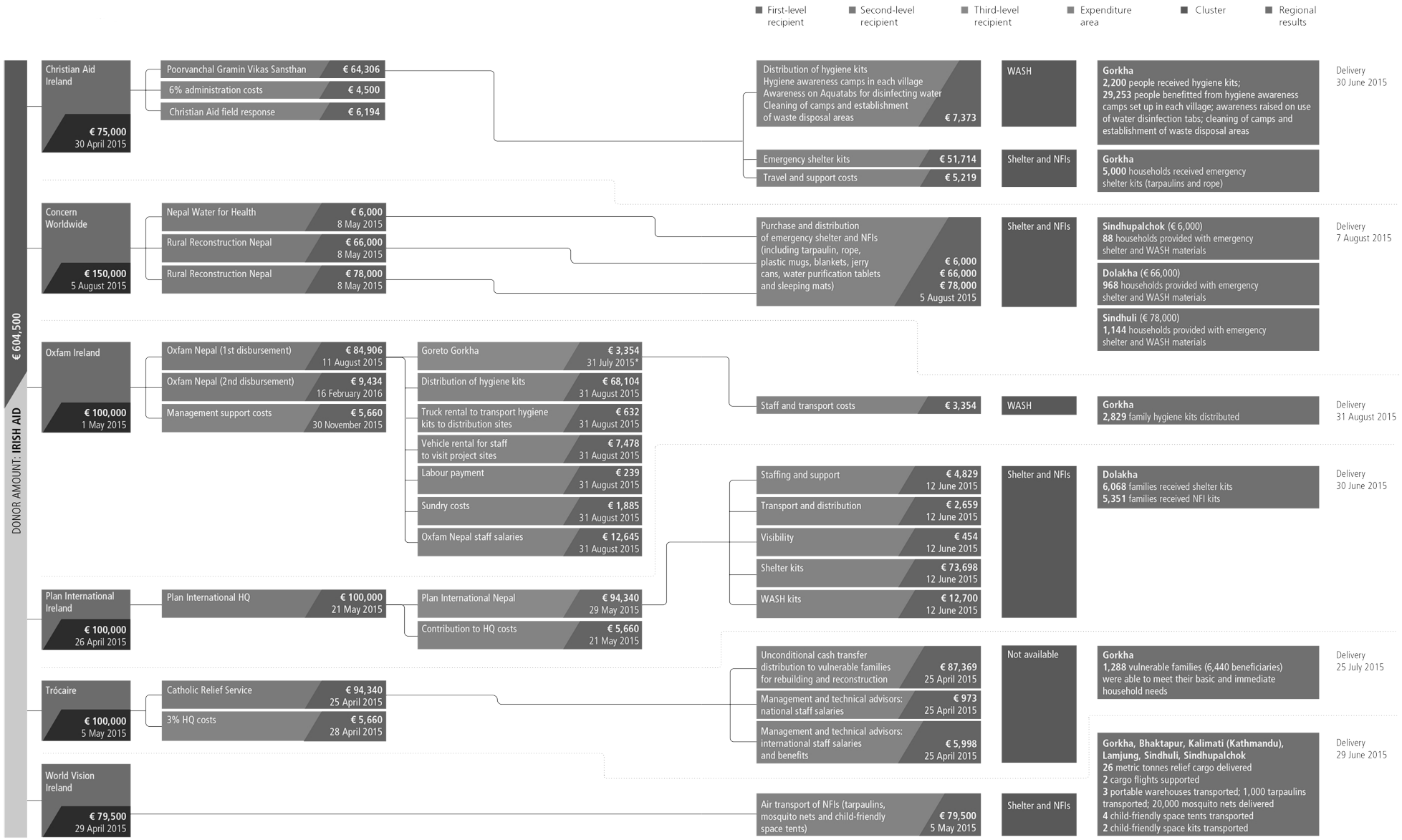
Source: Pradhan and Zellman (2018).

2 www.iatistandard.org/en/news/iati-in-2018-improving-development-data-use/

3 http://devinit.org/post/grand-bargain-progress-report-1/

4 http://earthquake.opennepal.net/

Figure 9: Irish Aid funding to the 2015 earthquake



Source: Development Initiatives (2016).

4.3 How data use informs resource allocation

While there are significant shortcomings in the availability of data, even where data exists it is not clear to what extent it is used to inform decision-making.

4.3.1 Government decision-makers

The changing institutional arrangements for disaster management in Nepal and implementation of the DRRM Act complicate an already complex picture. One ministry official identified better mapping of resources in advance of a response as an important lesson from previous disasters, and this official had worked with the Red Cross for the shelter cluster specifically on this. The challenge with this kind of resource mapping is its approximate nature, with no certainty that resources would actually be available. It also does not capture the significant resources from businesses/associations such as the Federation of Nepalese Chambers of Commerce and Industry (FNCCI), and large conglomerates such as the Chaudhary Group and Batas Foundation, which are not required to report on contributions. No government system exists to capture these resources, and while the government periodically sends out requests for data, this is ad hoc and not coordinated, and there is considerable duplication across ministries.

The fragmented nature of aid and response across multiple government ministries is another challenge. There are nascent efforts to better coordinate and oversee assistance through the Nepal Aid Management Platform (AMP) (http://amis.mof.gov.np/portal/), which is undergoing a redesign.[5] In the absence of staffing and budget for the NDMA, this function is still distributed among multiple ministries and is seen as a low priority by bureaucrats and politicians at federal level. De facto informal systems predominate and are retrospective rather than dynamic – for annual reporting rather than decision-making.

At the province and municipality levels, systems are very much emergent; the ability to coordinate even core government and international resources is limited and inconsistent, and there is little appetite or capacity to broaden the scope of preparedness and response to include a wider range of actors. At a local and ad hoc level, broader-based platforms are reportedly being developed, particularly incorporating private sector actors, but this is not tracked or documented so their

Box 3: New government structures

The federal system of power, responsibility and resource allocation has brought a new equation into the political economy of disaster management. The major part of disaster management funding from the DMF goes to the DRRM committee housed in the DAO. This made sense under earlier pre-federal arrangements, as the DAO is the line agency of the Home Ministry and is responsible for coordinating with the district security forces (both police and army) on disaster management. However, with the new elected representatives at local level and the introduction of the Local Governance Act and the Disaster Risk Reduction Management Act in 2017, which allocates responsibilities for preparedness, mitigation and rehabilitation to the local government, there are questions over who takes the lead in disaster management, and whether this lead would have the authority to mobilise the security forces, as the CDO currently does.

Currently, the CDO, as the chair of the DRM committee, coordinates sector line agencies of the government (such as the district women's and children's development office, district drinking water and sanitation office and district agriculture office), which lead different response clusters and mobilise the security forces for relocation, rescue and relief work. Given the absence of clear direction on how newly elected political bodies at the local level will work with the security forces, the four pillars of disaster response (relief, rescue, preparedness and mitigation) will remain divided between the two offices.

That said, key informants felt that the inclusion of elected representatives in the committee, as allowed for in the DDRMA, is a positive step. In addition, the Act has provisions for representatives of civil society and INGOs to actively engage as members of the DDRMC and work together with the government bodies leading the clusters.

5 A review of 75 AIMS in 2017 found that only 12 of these had been updated in the preceding six months; 27 were accessible but had not been updated in the last six months; and 32 were classified under the category of 'implemented once but shut down'. The study also notes that 'on the demand side, there is a lack of evidence of usage by the originally targeted users, particularly citizens in recipient countries' (Park, 2017, cited in Poole, 2019).

extent is unclear. It was also unclear from respondents how decentralisation will be implemented in terms of where funds for disaster management at provincial level will come from, what roles the provinces will have in disaster management and how they will fit their roles with the current role of the DAO and local disaster management committees.

4.3.2 International agencies and donors

The standard instruments of needs assessment and initial rapid assessment provide a picture of needs by sector/cluster. These are collated into a humanitarian response plan as a structured way to organise the response and identify funding requirements. Decision-making is driven by the operational focus on areas and clusters of operation, based on this assessment process. In reality, agencies are not generally or consistently assessing a wider range of people's own capacities, or the resources available from local organisations, remittances or the private sector. This is a major blindspot.

Assessment processes in Nepal have been making some progress, and the preparedness process ahead of the 2018 monsoon was reportedly more sophisticated than in 2017. A working group on key immediate needs was established to provide 'good enough' analysis in advance of final confirmation of official government figures on those affected, which can take several weeks to emerge. The IACFP has provided a platform for regular surveys of affected populations. Three rounds of perception surveys were carried out on the flood response, with 71% of those surveyed reporting in the first round that their needs were not being met (IACFP, 2018). The shelter cluster is attempting to track stockpiled contingency resources through the Shelter Cluster Contingency Plan (Nepal shelter cluster, 2018). However, uncertainty remains over whether the national cluster system should be replicated at the local level under the new municipality system. Provinces are also not clear on the role of the clusters, and the clusters are not yet the most effective entry point for wider resource mapping.[6]

4.4 Conclusion

There is limited awareness of or available data on the wider range of resources, monetary and in-kind, which mattered to people affected by the floods, among key elements of the response architecture, both national and international. The limited information that is available on these resources is itself not significantly factored into response planning by Nepali and international policy-makers and operational responders. This makes it harder to implement a response that is better rooted in the experience of affected people and which could therefore better meet their diverse needs and address their vulnerabilities.

Beyond this limited awareness of resource diversity among responders, our interviews also suggest that bilateral donors are assuming that their operational partners and agencies of the affected government incorporate a wider set of resources into their planning. The evidence suggests that donors, while wanting to base decision-making on resource data, do not in fact have a clear sense of the extent to which their partners are doing this in practice, and there appear to be no systematic or coordinated approaches to prioritising changes in this direction.

There is a mismatch between the desire of donors and agencies to base resource allocation on data and evidence, the availability of that data and how data is used in practice. This suggests a need for greater focus on both increased resource data and more systematic incorporation of that data in existing programming processes.

6 HPG interview with UN cluster coordinator.

5 Conclusion

International resources are only one part of an array of resource flows in the flood response in Nepal:

- Households reported over one-third of the resources they received came from their family, the government, the diaspora or community-based organisations.
- Around one-quarter of the response was provided by other countries, with China reportedly the main source.
- Nepali NGOs, particularly the Nepal Red Cross, accounted for a fifth of the response, including delivering internationally funded assistance from the UN/INGOs or the international Red Cross/Crescent Movement as a partner or subcontractor.
- Only one-sixth of the response at household level was reportedly from the UN or INGOs.
- Average support in response to the crisis was equivalent to 5% of typical annual household expenditure.

Volunteers and members of the diaspora provided financial support that, while small in terms of absolute value, was still seen as useful for its speed and appropriateness, and because it reflected a sense of community support and solidarity.

The most vulnerable did not necessarily receive the most: overall, the distribution of assistance was inconsistent in targeting and quality due to complex caste/ethnic dynamics, local political influence and ineffective information management and coordination. Local assistance was sometimes very well targeted, based on good contextual knowledge, but in other cases it was poorly managed and haphazard. Data on resources beyond international assistance was poor quality, inadequate, difficult to compare and late; decision-making was based on informal sources of data on resourcing and flawed assumptions that needs assessments incorporated considerations of how household vulnerability was affected by wider resource flows, including from national and local government.

What does this study tell us about the overarching policy question: how might better knowledge about the assistance that reaches communities in crisis change/affect the international humanitarian response? While decision-makers would welcome more accurate and timely data on crisis resourcing from a wider range of sources, current systems and future plans are unlikely to deliver a meaningful data set, and currently available data is not incorporated systematically into decision making.

There are opportunities to strengthen systems to take into account the wider resource picture at different levels:

- At local level, while federalisation and its gradual roll-out are weakening already ineffective coordination mechanisms at district level, the vision of decentralised disaster management overseen by provincial and national disaster management authorities would offer a potential platform for a more inclusive approach to preparedness and response across a wider set of actors. It could also encourage greater investment in local-level coordination and information management, particularly linking to humanitarian clusters, which would lead to better coordination of resource tracking and a more coordinated and holistic response.
- At national level, the NDMA and clusters on paper are the right vehicle to strengthen resource tracking, but delays in implementing the DRRMA threaten to undermine their potential.
- Considering the relatively minor role played by international resources, greater attention could be paid to how to maximise their effectiveness and complementarity with the other resources people rely on to survive.
- The IACFP and cluster-level resource tracking are practical ways to take better account of household perspectives and existing resources, while being realistic about whether investing in new tracking systems would be justified by the expected improvements in response.
- Donors should invest in research to understand in greater detail the links between remittances and crises in order to improve programming decisions.

Investing in better tracking may have limited impact without matching investment in information management, coordination and government capacity to make use of improved resource data, alongside smarter use of data on vulnerability and response

capacity. As Willitts-King et al (2018) argue: 'there may therefore be a good case for investing in better analysis of the resource contributions of crisis-affected people, their networks, and domestic actors, into our understanding of resources for crisis response and recovery. This will not always be a matter of "tracking", it may also be about how we assess and understand "needs", capacities, networks, markets and economic opportunities'.

This is certainly borne out in Nepal. The more complex and multi-sectoral household perspective that this paper has documented needs to inform a more nuanced and sophisticated response by the international community.

In practical terms, this implies a different type of crisis assessment tool which, as well as focusing on needs, also reflects the assets, resources and capacities of the affected population. This could take the form, for example, of a rapid 'macro-assessment', which looks holistically at the pre-existing characteristics of the affected population, rather than a sector-specific and intervention-related assessment. By incorporating household perspectives more centrally into needs assessments, and building awareness of a wider range of resources and their relative monetary and non-monetary value, future responses in Nepal and other disaster-affected countries could aspire to a more effective and holistic response.

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