

**Afghanistan Polio Eradication Initiative
Epidemiological Investigation Report of NSL1, AFG/08/09/027
Kajaki, Helmand, Southern Region - Afghanistan**

Investigation was carried out in response to the occurrence of a confirmed polio case from the Mulla Kashmir village Roshanabad area, Kajaki district of Helmand province. The 9 months old child was identified as AFP by Dr M Alam GP in Musa Qalla Bazar investigated by concerned PPO and NSL 1 was isolated from both stool specimens of the case. Detailed analysis of Surveillance and SIAs data was carried out to identify the possible source of infection, assess the immunization status of the children in the area and suggest/implement appropriate corrective measures.

Background:

This district reported one NSL1 case in 2007 (AFG/08/07/641) with date of onset 10th April 2007 and was the 1st positive case of Afghanistan reported in 2007. The case of 2007 was a zero dose case and the index case of this year has received only 1 OPV dose through SIAs (4th August 2008 NIDs) which is a clear evidence of poor vaccination activities in the area. Detailed Epid investigation also showed very poor coverage of target children around the case and nearby villages.

General description of the area:

Kajaki district of Helmand Province hosts 7% of the total population of the province. The district has a target population of 35,979 of children less than 5 years. Kajaki district have borders with Musa Qalla district of Helmand province (having 1 confirmed NSL1 case with date of onset 26th August 2008 and the target children were not being accessed since September 2008 till March 2009), Ghorak district of Kandahar (having 1 NSL1 case in 2008), Sangeen district of Helmand province (having 1 NSL1 case in 2008) and district Dehrawood of Urozgan province (having 2 NSL1 cases in 2006). The case is in a newly developed hamlet of 30 houses with almost 126 target children less than 5 years and is on border with Musa Qalla. 4 families are residing in the index case household with 4 children less than 5 years. The people of the area are mainly farmers, business and animal herders. The sanitary conditions in the area are poor with no house having latrines and people use water of shallow and tube well for drinking and cooking. It has only 1 CHC which was not functional for sometimes due to security but have now been made functional by Ibne Sina, BPHS NGO. The district is almost 90 - 100 km far from the provincial capital, Bust. Although the district was never missed completely in any campaign but the quality of campaign remained suboptimal especially in the area around the case being security compromised area. Vaccination campaigns are not being allowed by the AGEs and the quality is suboptimal even when the implementation of NIDs/SNIDs is allowed. The routine vaccination programme has also resumed in the district recently.

Case details:

Name:	Mohammad Salim
Father's Name:	Mohammad Kamil
Age:	9 months
Sex:	Male
Date of onset of paralysis:	March 2, 2009
Date reported:	March 11, 2009
Date Investigated:	March 11, 2009
Date first stool collection:	March 11, 2009
Date Second stool collection:	March 12, 2009

Sign and Symptoms: Flaccid paralysis of right leg and left arm following high grade fever.

Case was labeled as “Hot” because of rapid progression, asymmetry, and history of fever, less OPV doses, normal sensation in the affected limbs and from high risk area.

Clinical History:

According to the mother the 9 months old child was absolutely in good health until 27th February, 2009, when he developed fever and started not taking the feed properly. **On March 2, 2009**, the mother noticed weakness of right leg and left arm for which they consulted Dr M Alam GP in Musa Qalla on the **5th day** of paralysis. The GP referred the child to Dr Inayat Ullah (famous private practitioner in Bust and Director Public Health Helmand) after labeling him as AFP case on the same day. However the child was brought to Dr Inayat Ullah on **11th March**, who examined the patient and reported the case as AFP to the concerned PPO. The case investigation was carried out on the same day and stool samples were collected on 11th and 12th March 2009 and transported in good condition to NIH Islamabad.

**Map of the index village,
AFG/08/09/027 Case**

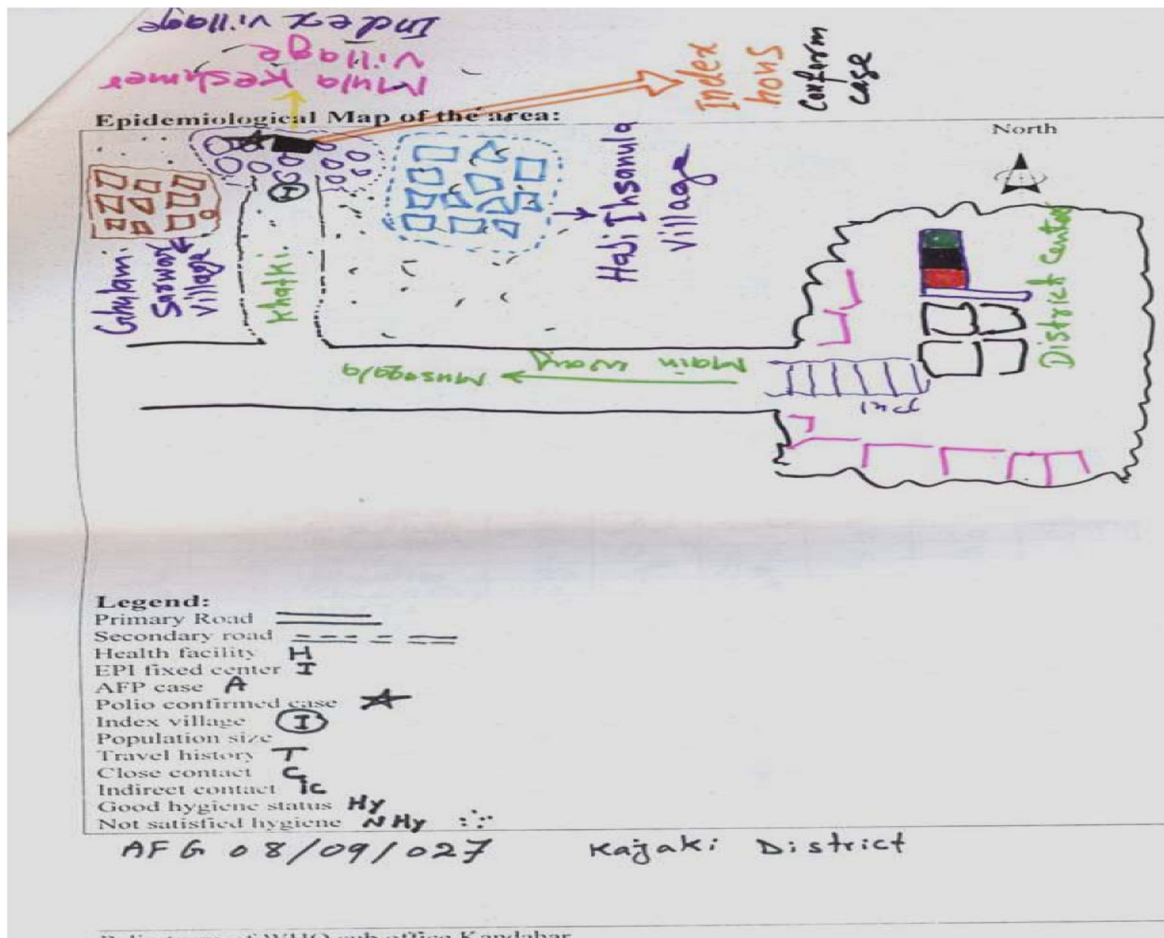
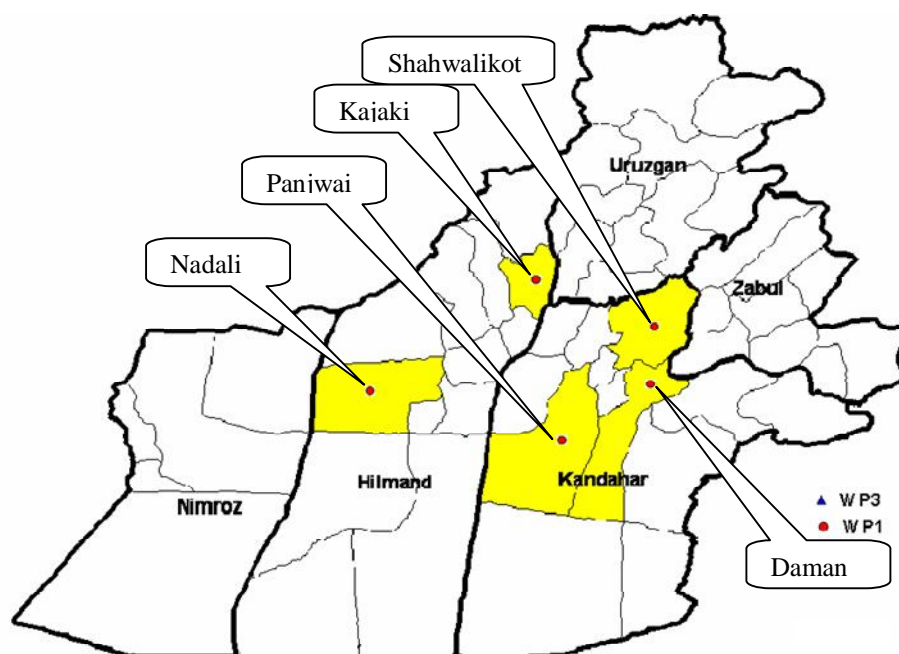


Table 1: Characteristics of Confirmed Polio case 027 of Kajaki District, Helmand Province, 2009

EPI D	District	Name	Date Onset	Age in Month	Sex	OPV Doses	Fever	Site	Progress	Lab Result
027	Kajaki	Mohammad Salim	2/3/2009	9	M	1	Y	Rt Leg & Left arm	Rapid	NSL1

It is worth mentioning that to date, only 1 AFP case has been reported from district Kajaki and NSL1 has been isolated from both the specimens of the case.

Figure 1: Location of NSL1 case of Kajaki, Southern region 2009



Travel History/ Population Movement:

Although there is no travel history mentioned but as the district is surrounded by infected districts and there is population movement between these districts.

Vaccination History:

The child has not received any opv dose through Routine and only 1 dose through SIAs (August 2008 NIDs).

Vaccination Coverage Surveys in the Area: Household OPV coverage survey was carried out in the index and surrounding villages of the case. Post Campaign monitoring data was also analyzed in detail to assess the quality of campaign in the area as well as in the district.

Household coverage survey of index and surrounding villages was conducted by DST and shows that the coverage was 0 % for OPV survey of all the children less than 5 years checked, and 0 % for March 2009 NIDs and 60% during February 2009 Measles mortality reduction campaign during which OPV was also administered to the children less than 5 years. (Table 2).

Table 2: Household OPV Coverage (%) in the index and surrounding villages as assessed during Field investigation Kajaki District, 2009

Campaign	AFG/08/09/027 Kajaki District		
	Mulla Kashmir (index Village)	Ghulam Sarwar village	Haji-Ihsan Ullah Village
March 09	0 %	80 %	71 %
Feb, 09 MMRC	60 %	80 %	71 %
Jan, 09	15 %	66 %	69 %
Nov, 08	15 %	69 %	66 %

Analysis of the post campaign monitoring (PCM) data for Kajaki district shows that 56% of the clusters were having coverage less than 95% in March 2009 NIDs and 38% Clusters were below 95% in January 2009 NIDs. Moreover, analysis by age group reflects that coverage was more seriously affected among younger age group children in those conducted rounds (0-11 M), particularly March and January, 2009.

**Table 3: Post Campaign Monitoring Results, OPV coverage by round and age group
Kajaki District 2008-09 (Helmand)**

Campaign Month	District Kajaki			
	No: clusters Evaluated	Total clusters below 95%	No Clusters <95% by age group (months)	
			Among 0-11	Among 12-59
Oct 08	16	5 (31%)	6 (38%)	2 (13%)
Nov 08	16	2 (13%)	3 (19%)	2 (13%)
Jan 09	16	6 (38%)	6 (38%)	6 (38%)
March 09	16	9 (56%)	8 (50%)	9 (56%)

AFP Surveillance Indicators:

The analysis of AFP surveillance data at provincial and district levels for 2007 and 2008 of major surveillance indicators meet the globally set standards, the stool adequacy and Non polio AFP rate in provincial and district level, (Table 4). Proportion of male AFP cases is significantly higher reflecting the possibility of under reporting of female AFP cases. Comparison of median OPV doses of AFP cases of district in 2007 and 2008 shows improvement at provincial level indicating the quality of campaigns in the district require improvement.

**Table 4: Comparison of Kajaki District of Helmand
Surveillance indicators 2007-2008**

Province	Exp AFP	Reported AFP		Annualized Non Polio AFP rate		Adequacy %		No Male/Female		EV%		GBS No		Median OPV*		Age Range 2008
		07	08	07	08	07	08	07	08	07	08	07	08	07	08	
Helmand (Province)	23.2	64	45	2.2	1.6	86	85	34/30	31/14	32	25	15	10	6	8	2-157
Kajaki (Dist)	1.6	5	3	2.5	2	100	100	3/2	1/2	40	0	1	0	11	6.5	30-157

Discussion and Conclusions:

It is worth mentioning that the district has reported only one AFP case which turned out to be a confirmed (NSL1) case and the last case reported was in April 2007 which was also NSL1. The district is surrounded by districts most of which have ongoing active circulation of NSL1. All the 5 cases reported this year in Afghanistan prior to this case are from Southern region and are from A3-A sub cluster. Very poor vaccination coverage not only around the close proximity of the case but also in the surrounding areas where some vaccination activities were not even allowed to take place for a considerable period resulting in pool of susceptible children who are not or under immunized allowing transmission of NSL1 to continue in the area/region.

Actions Taken/Planned:

1. Concerned PPO was instructed to increase active AFP case search in the area and sensitize the practitioners in the area to report AFP cases and also emphasize on House to House teams to properly enquire about AFP cases.
2. Close monitoring mechanisms to be put in place in Kajaki during implementation of April 2009 SNIDs to promptly act if difficulties are met by the teams. PPO asked to seek the help of local Taliban and also efforts are being made with ISAF to help in accessing the children in these critical areas.
3. The epidemiological survey of the index village and its surrounding villages to be discussed in EPI committee meeting at the provincial level to improve the out reach EPI service in the district.
4. SNIDs with mOPV 1 in the region has been planned to be conducted from 12-14th April 2009. mOPV1 was also administered to the target children in Helmand, Kandahar and Nimroze provinces during Measles mortality reduction campaign conducted in February 2009.