

Appendix 1: CRVS Systems Improvement: Case Study

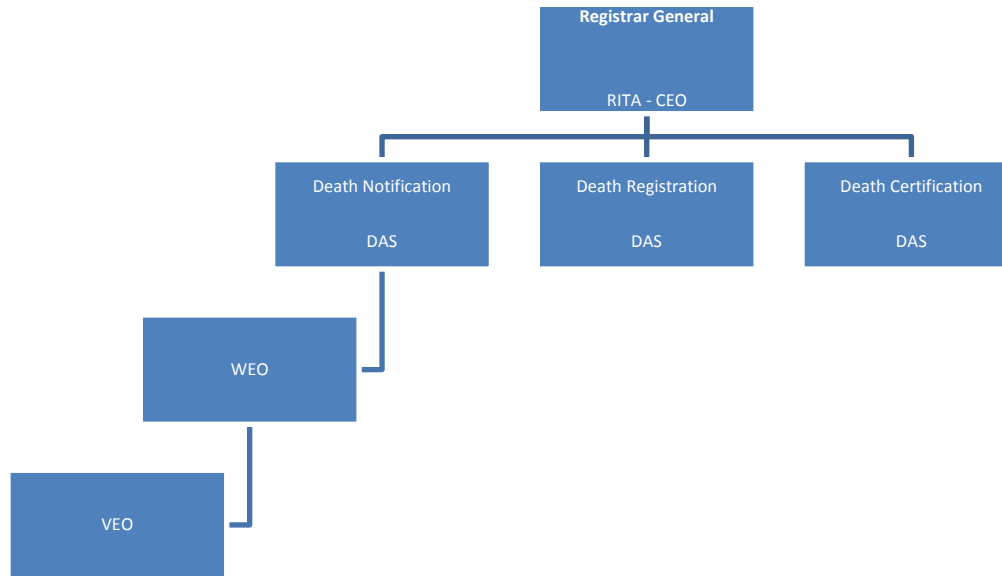
1 Stage 2: Analyze CRVS Systems Landscape

1.1 Task 2.2: Map existing CRVS business processes

Step 1: Identify and describe all the CRVS business processes

Process Name	Process Description
Birth Registration in the Community	The Village Executive Officer, upon receiving a birth declaration from the family, issues an introduction letter which is submitted by the family to District Administrative Secretary for birth registration and birth certification
Birth Registration in a Health Facility	The health facility issues a birth notification to the family which may later be submitted by the family to any CR registration office to complete birth registration.
Death Registration in the Community	The Village Executive Officer upon receiving a death declaration from the family, issue introduction letter which is submitted by the family to District Administrative Secretary to complete death registration.
Death Registration in a Health Facility	The health facility issues a death notification to the family which may later be submitted by the family to any CR registration office to complete death registration.

Step 2: Identify process owners and process participants



Step 3: Interview process owners and process participants

Table 1: Death Registration in the Community Process Description

Process Name	<ul style="list-style-type: none"> Death Registration in the Community
Business objectives	<ul style="list-style-type: none"> To register and certify all death events that occurs in the community
Measure of Success	<ul style="list-style-type: none"> All death registered within legally defined number of days All notified death registered and certified Average time between the moment a death event is notified and the moment it is registered and certified (cycle time) is minimized. Absence of complaints about delays

Business Rules	•
Triggers	• Event beginning: Death occurred in the community
Input	• Completed death registration forms and supporting documents
Output	• Death Certificate

Step 4: Interview and generate the map

iii. Workshop participants list process steps

Table 2: Process (As-Is) steps carried out in the Death Registration in the Community Process in Tanzania

1	Death is declared to the Village Executive Officer (VEO)
2	Once the death is declared to the VEO, he/she issues an introduction Letter to the Family or Declarant
3	The Family takes the introduction Letter to the WEO to seek death registration
4	The WEO review the introduction Letter and issue the family with an Introduction Letter to DAS seek death registration
3	The Family takes the introduction Letter to the DAS to seek death registration
4	DAS fills form B2. One copy of B2 is given to the family as a death Notification and DAS assign a register number to other copy
5	The Family/Declarant receives death Notification, he/she may decide to do nothing or request for a birth certificate
6	Family submit the death notification to DAS for certification
7	DAS checks that they have register for that specific Death for validation
8	If not valid, the registration will take place later otherwise the Family is sent to the cashier for payment
9	Family submit payment receipt to the Registrar
10	The Registrar verify and accept the receipt

11	Registrar print death certificate
12	Registrar issue death certification to the family

iv. Workshop participants list process actors who perform the registration work

Table 3: Process Actors for the Death Registration in the Community in Tanzania

1	Family or Declarant
2	Village Executive Officer (VEO)
3	Police
4	Health Facility
5	Ward Executive Officer (WEO)
6	District Administrative Secretary (DAS)
7	RITA HQ

v. Review process with whole group and add additional information as necessary

vi. Assemble the information that has been provided into a Process Map

Tanzania (As-Is) Death Registration in the Community (Level 1)

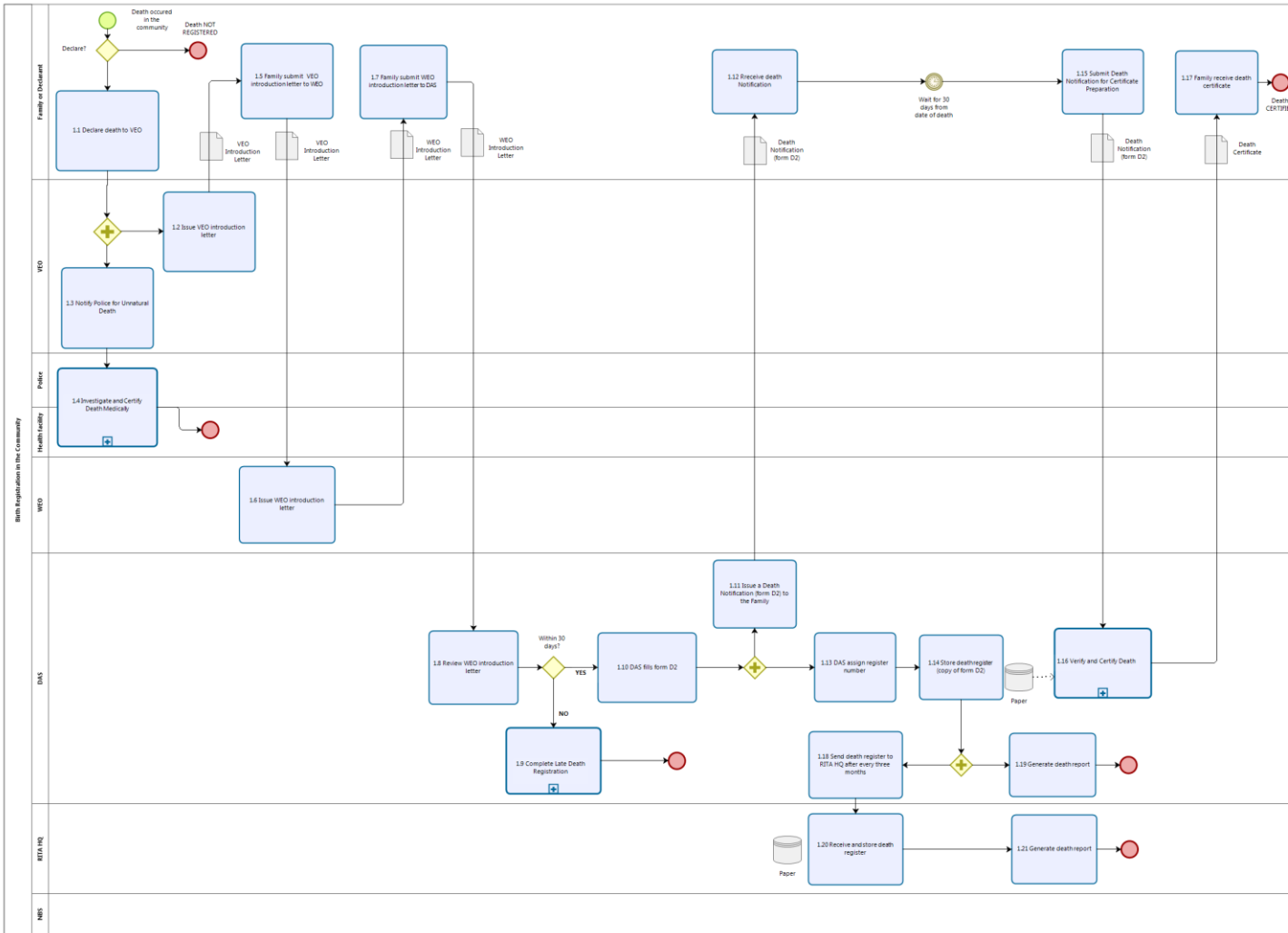


Figure 1: As-Is Death Registration in the Community Process Map (Level 1)

1.16 Verify and Certify Death (Level 2)

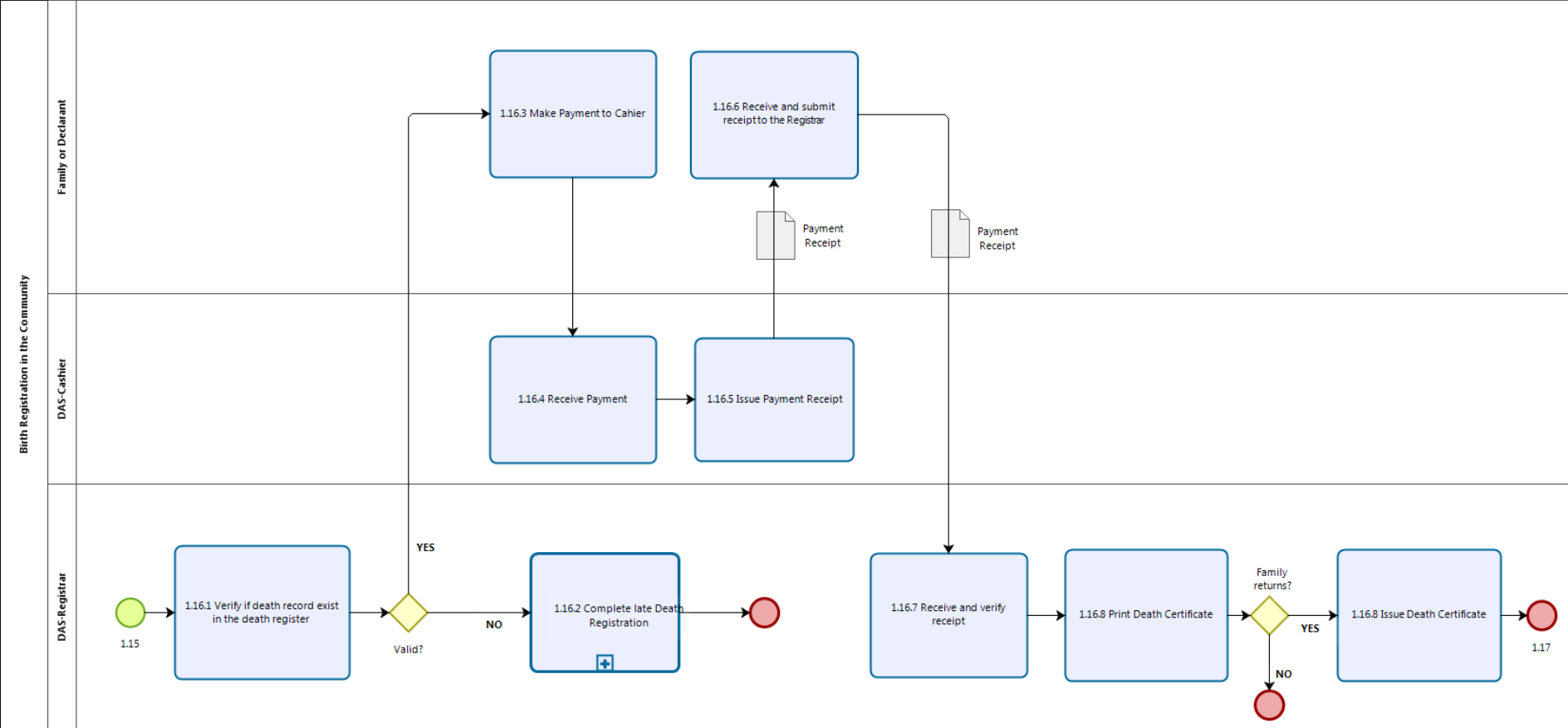


Figure 2: Verify and Certify Death (Level 2)

1.2 Task 2.3: Analysis of Existing CRVS Processes

Step 1: Collect Process Performance Data

Table 4: Sample performance data for Death Registration in the Community Process

Metric Type	Metric
Customer Centric Measure	
Number of physical trips/visits	Average number of physical trips made by families to the registration point before completing the registration of a vital event
Processing Time	Average time spent performing real work (total time taken for each activity in the process map)
Turnaround Time	The total time spent performing real work plus waiting.
Cost	Total amount of money incurred indirectly to complete the registration of a vital event by the citizen
Stakeholder Centric Measure	
Population Coverage	Percentage of death certified
	Percentage of death registered
	Percentage of death registered within 30 days.
	Percentage of declared deaths that are not registered
	Percentage of registered deaths that are not certified
	Percentage of death events occurred that are not declared
Data Completeness	Average number of mandatory data item that are non-empty
Data Uniqueness	Number of vital event recorded more than once.
Data Timeliness	Average time between when death data is expected and when it is readily available for use.
Data Accuracy	The degree to which the data mirrors the characteristics of the vital event it represents.
Data Consistency	The absence of difference, when comparing two or more representations of the same vital event.

Table 5: As-IS Performance data for Death Registration in the Community Process (Level 1)

Activity #	Activity Name	Input	Output	Business Rule	Average PT (min)	Average TT (min)
Remarks PT = time spent performing real work (total time taken for each activity in the process map) TT = PT + waiting and travelling time (e.g. wait time for approval from manager, other departments, external agency, etc)						
1.1	Declare Death to VEO	Blank paper	VEO introduction Letter		30	120
1.2	Issue VEO introduction letter to the Declarant					
1.3	Notify Police for Unnatural Death					
1.4	Investigate and Certify Death Medically					
1.5	Family submit VEO introduction letter	VEO Introduction Letter	Accepted VEO Introduction Letter		30	360
1.6	Issue WEO introduction letter	Blank WEO introduction form	WEO introduction letter			
1.7	Family submit WEO introduction letter for Registration	WEO Introduction Letter	Accepted WEO Introduction Letter		30	720
1.8	Review WEO				60	120

	introduction letter					
1.9	Complete Late Death Registration	WEO Introduction Letter				
1.10	DAS fills form D2	Blank form D2	Completed form D2; supporting documents e.g. introduction letter		60	120
1.11	DAS issue death Notification (form D2) to Declarant	Death Notification (form D2)	Accepted Death Notification (form D2)		20	120
1.12	Family receive death notification					
1.13	DAS assign register number	Death Register	Numbered Death Register		20	60
1.14	Store Death Register (A copy of form D2)	Death Register	Death Register		20	60
1.15	Family submit Death Notification to DAS for Certification	Death Notification	Verified Death Notification		30	720
1.16	DAS check death detail in the death register					

1.17	Issue Death Certificate		Death Certificate		50	20,160
1.18	Family Receive Death Certificate		Accepted Death Certificate		30	720
1.19	Complete Late Death Registration					
1.20	DAS send death register to RITA HQ					
1.21	DAS produce death report	Death Register	VS report			360
1.22	RITA HQ receive and store death register	Death Registers				
1.23	RITA Generate death report					
	Total Time (hours)				6 hours	388 hours
	Total Time (days)					16 days

Table 6: Overall Process Performance Data

Metric Type	Metric	Actual Performance
Customer Centric Measure		
Number of physical trips/visits	Average number of physical trips made by families to the registration point before completing the registration of a vital event	Three or more physical visit

Distance between registration point	Average distance that a customer has to travel before completing the registration of death	75KM
Processing Time	Average time spent performing real work (total time taken for each activity in the process map)	6hrs and 20 Minutes
Turnaround Time	The total time spent performing real work plus waiting.	16 days and 12hrs
Cost	Total amount of money incurred indirectly to complete the registration of a vital event by the citizen	90,000 TZS
Stakeholder Centric Measure		
Population Coverage	Percentage of death certified	7%
	Percentage of death registered	10%
	Percentage of death registered within 30 days.	30%
	Percentage of declared deaths that are not registered	25%
	Percentage of registered deaths that are not certified	40%
	Percentage of death events occurred that are not declared	75% of death are not declared to VEO
Data Completeness	Average number of mandatory data item that are non-empty	16
Data Uniqueness	Number of vital event recorded more than once.	12
Data Timeliness	Average time between when death data is expected and when it is readily available for use.	2 Months Death Data must be received by Registrar General (RITA HQ)
Data Accuracy	The degree to which the data mirrors the characteristics of the vital event it represents.	80%
Data Consistency	The absence of difference, when comparing two or more representations of the same vital event.	70%

Step 3: Analyse the data to identify problems and issues of existing processes

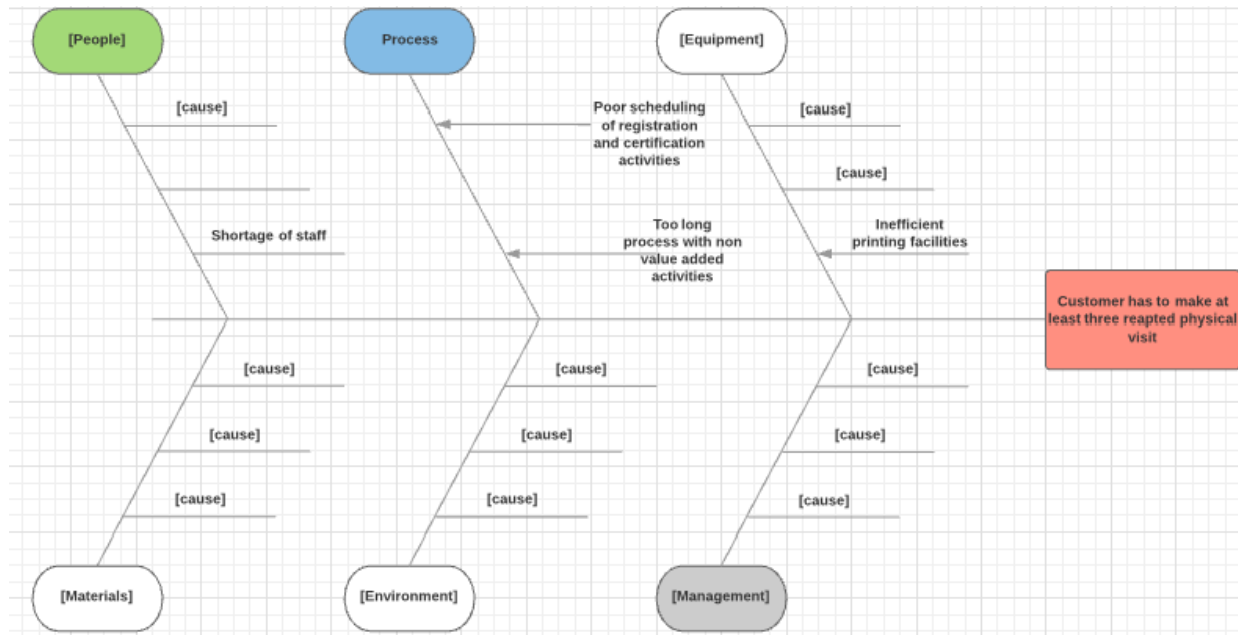
Table 7: Example Analysis of the Death Registration in the Community Process in Tanzania

Analysis Questions/Areas	Key Performance Issues	Root Causes
Customer Issues		
1. At which points/parts of the process do citizen typically experience frustration?	<ul style="list-style-type: none"> • A citizen has to make repeated (at least three) physical trips to the registration point (DAS's office) to complete death registration and certification • A citizen has to travel over 75KM (at least three) to the registration point (DAS's office) to complete death registration 	<ul style="list-style-type: none"> • Several activities for notification, registration and certification some of these are Non-value activities • Poor scheduling of activities for registration and certification • Inefficient printing facilities • The same staff is doing both the registration and issuance of death certificate • There is only one registration point in a District which occupy a large geographical area. Therefore the distance between customers location and registration point is large
2. Which parts of the process seem to consume an inordinate amount of time?	<ul style="list-style-type: none"> • Families spend 52 hours (2 days) travelling (three times) to DAS and 12 hours waiting in the queues • After making the payment, families have to wait for 14 days before receiving the death certificate 	<ul style="list-style-type: none"> • Distance between customers location and registration point is too long • Too much paper work • Shortage of staff
3. Which parts of the process incur unacceptable costs?	<ul style="list-style-type: none"> • Families have to incur (TZ 90,000) more additional cost for travelling and accommodation before they can complete death registration and certification 	<ul style="list-style-type: none"> • Distance between customers location and registration point is large • Repeated physical visit
Stakeholder Issues		
4. At which points/part of the process produce	<ul style="list-style-type: none"> • 75% of death are not declared to VEO • 25% of declared deaths are not registered • only 30% of death are registered within 30 days. 	<ul style="list-style-type: none"> • Little demand for death certificate • Too long distance to registration point • High cost of traveling and accommodation

low outcome?	<ul style="list-style-type: none"> 40% of registered deaths are not certified 	<ul style="list-style-type: none"> Time
5. At which points/part of this process where the produced data is incomplete?	<ul style="list-style-type: none"> Data incompleteness - Some of the Death Record misses Causes of Death data item 	<ul style="list-style-type: none"> The process do not include activities for establishing Cause of Death Lack of enough workforce Lack of workforce with knowledge and skills to collect required death data from families and assign causes of death
6. At which points/part of this process where the data is not made available timely?	<ul style="list-style-type: none"> Death data is not timely made available/shared to RITA HQ - it takes more than three months 	<ul style="list-style-type: none"> Paper based registers and manual registration
Non-Value Added Activities		
7. Which activities of the process are non-value added activities	<ul style="list-style-type: none"> Issuance of two introduction letters (VEO and WEO) does not add value. Issuance of death notification does not add value Transmitting death registers from the District to RITA HQ does not add value 	<ul style="list-style-type: none"> Legal compliance requirement Lack of archiving facilities and infrastructure at the District
Process Complexity		
8. At which point/parts of the process which has handoffs	<ul style="list-style-type: none"> Issuance of VEO Introduction Letter and WEO introduction letter 	Legal compliance requirement
9. At which point/parts of the process where duplicate data entry is taking place	<ul style="list-style-type: none"> Death record for unnatural death is captured twice - at the health facility (is entered in HMIS) and DAS office 	<ul style="list-style-type: none"> Fragmented processes Lack of coordination between CRVS and health sector Lack of mechanism for share information
10. At which point/parts of the		

process where duplicate systems is used		
CRVS Process Milestones		
11. CR Milestones	<ul style="list-style-type: none"> CR data is not shared with key actors such as VS Organization, Health Systems and National ID Agency 	<ul style="list-style-type: none"> CR processes are not integrated with processes for VS processing, Health Systems and ID Management processes
12. VS Milestones	<ul style="list-style-type: none"> VS data is not derived from CR data therefore no VS Compilation from CR data 	<ul style="list-style-type: none"> CR and VS processes are not integrated

Step 4: Identify the root cause of the identified problems and issues



2 Stage 3: Improve existing CRVS business processes

2.1 Task 3.1: Redesign a better process

Step 1: Identify and envision potential redesign ideas to create a better process.

Table 8: Example Redesign Ideas for Death Registration in the Community in Tanzania

Performance Issues	Root Causes	Redesign ideas
<i>Exceed customer experience</i>		
1. A customer has to make repeated (at least three) trips to the registration point (DAS's office) to complete death registration and certification	<ul style="list-style-type: none"> • Several activities for notification, registration and certification are Non-value added activities • Poor scheduling of activities for registration and certification • Inefficient printing facilities • The same staff is doing both the registration and issuance of death certificate 	<ul style="list-style-type: none"> • Reconfigure the process to <ul style="list-style-type: none"> ○ eliminate non-value added activities - issuance of Death Notification ○ combine registration and certification activities to be completed in a single visit • Issue pre-printed certificate • Hire more staff
2. A citizen has to travel over 75KM (at least three) to the registration point (DAS's office) to complete death registration	<ul style="list-style-type: none"> • There is only one registration point in a District which occupy a large geographical area. Therefore the distance between customers location and registration point is large 	<ul style="list-style-type: none"> • Relocate the registration point and activities from the District (74KM) to the Ward level (10KM). • Reassign the registration responsibilities to Ward Executive Officer (WEO)
3. Families spend 52 hours (2 days) travelling	<ul style="list-style-type: none"> • Distance between 	<ul style="list-style-type: none"> • Reduced travel time by reducing the travel distance,

<p>(three times) to DAS and</p> <p>4. Families spend 9 hours waiting in the queues.</p> <p>5. After making the payment, families have to wait for 14 days before receiving the death certificate</p>	<p>customers location and registration point is too long</p> <ul style="list-style-type: none"> • Too much paper work • Shortage of staff 	<p>which is achieved by Relocating</p> <ul style="list-style-type: none"> • Reconfigure the process <ul style="list-style-type: none"> ○ to eliminate non-value added activities issuance of Death Notification ○ to combine registration and certification activities to be completed in a single visit
<p>6. Families have to incur (TZ 90,000) more additional cost for travelling and accommodation before they can complete death registration and certification</p>	<ul style="list-style-type: none"> • Distance between customers location and registration point is large • Repeated physical visit 	<ul style="list-style-type: none"> • Reduced the distance and number of physical visit by Relocating • Reconfigure the process <ul style="list-style-type: none"> ○ to eliminate non-value added activities issuance of Death Notification ○ to combine registration and certification activities to be completed in a single visit
<p><i>Exceed stakeholder experience</i></p>		
<p>7. 75% of death are not declared to VEO</p>	<ul style="list-style-type: none"> • Little demand for death certificate 	<ul style="list-style-type: none"> • Reassign the responsibilities of death declaration to Notification Agents (CHW, TBA,) from families.
<p>8. 25% of declared/notified deaths are not registered</p> <p>9. only 30% of death are registered within 30 days.</p> <p>10. 40% of registered deaths are not certified</p>	<ul style="list-style-type: none"> • Too long distance to registration point • High cost of traveling and accommodation • Time 	<ul style="list-style-type: none"> • Digitize (Retool) the notification - to make Death Notification Data available to all levels - so WEO and CHW can make follow up of families who have not completed the registration and certification
<p>11. Data incompleteness - Death Record misses Causes of Death data item</p>	<ul style="list-style-type: none"> • The process do not include activities for establishing Cause of Death • Lack of enough workforce • Lack of workforce with knowledge and skills to collect required death data from families and assign causes of death 	<ul style="list-style-type: none"> • Reconfigure the process to add activities for VA • Digitize (Retool) the VA for establishing probable causes of death • Reassign the responsibilities of conducting VA interview to CHW and MOH responsibilities to analyze VA data and establish PCOD

12. Data timeliness- Death Data sharing from VEO to DAS and RITA HQ is not timely	<ul style="list-style-type: none"> • Paper based registers and manual registration 	<ul style="list-style-type: none"> • Digitize (Retool) CRVS system and enable information access all process participants from anywhere and anytime
13. Issuance of two introduction letters (VEO and WEO) does not add value.	<ul style="list-style-type: none"> • Legal compliance requirement 	<ul style="list-style-type: none"> • Reconfigure the process to eliminate issuance of introduction letter from WEO
14. Issuance of death notification does not add value	<ul style="list-style-type: none"> • Legal compliance requirement 	<ul style="list-style-type: none"> • Reconfigure the process to eliminate issuance of Death Notification
15. Transmitting death registers from the District to RITA HQ does not add value	<ul style="list-style-type: none"> • Legal compliance requirement • Lack of archiving facilities and infrastructure at the District 	<ul style="list-style-type: none"> • Reconfigure the process to eliminate transmitting death registers from the district to RITA HQ. Keep the death application forms at the District for five years, and then destroy them.
16. Death record for unnatural death is captured twice - at the health facility (is entered in HMIS) and DAS office	<ul style="list-style-type: none"> • Fragmented processes • Lack of coordination between CRVS and health sector • Lack of mechanism for share information 	<ul style="list-style-type: none"> • Make CRVS as the foundational registry by capturing birth and death data only once in the CRVS. • Enable information exchange to other registries

Step 2: Determine how to measure the new process's performance

Table 9: Sample Performance Metrics and Targets

Metric Type	Measure	Target	Data Sources
<i>Customer Centric Measure</i>			
Customer satisfaction	Number of physical trips/visits	1 Physical Visit	
Processing Time	Average time taken to do the death certification work	3hrs	
Turnaround Time	Average time taken to complete death certification	4hr	
Cost	Average amount (TZS) spent by the family before completing the death certification	TZS 0	
<i>Stakeholder Centric Measure</i>			
Population Coverage	Percentage of death certified	90%	
	Percentage of death registered	90%	
	Percentage of death registered within 30 days.	95%	
	Percentage of death events occurred that are not declared	0%	
	Percentage of declared deaths that are not registered	0%	
	Percentage of registered deaths that are not certified	0%	
Data Completeness	Average number of mandatory data item that are non-empty	100%	
Data Uniqueness	Number of vital event recorded more than once.	0%	
Data Timeliness	Average time between when death data is expected and when it is readily available for use.	0%	
Data Accuracy	The degree to which the data mirrors the characteristics of the vital event it represents.	100%	
Data Consistency	The absence of difference, when comparing two or more representations of the same vital event.	100%	

Step 3: Create a desired (to-be) process map

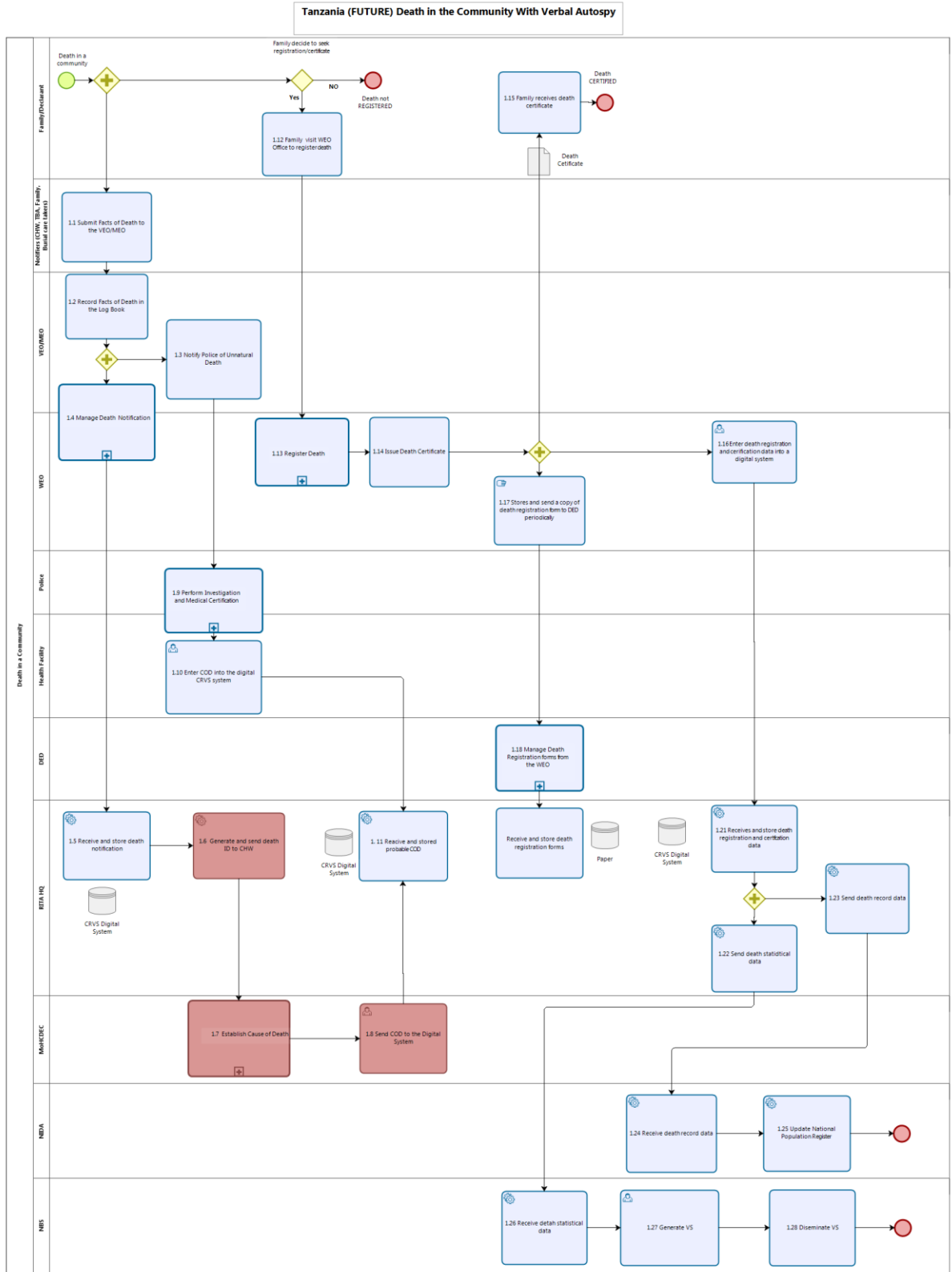


Figure 3: To-Be Death Registration in the Community (Level 1)

1.7 Establish Causes of Death (Level 2)

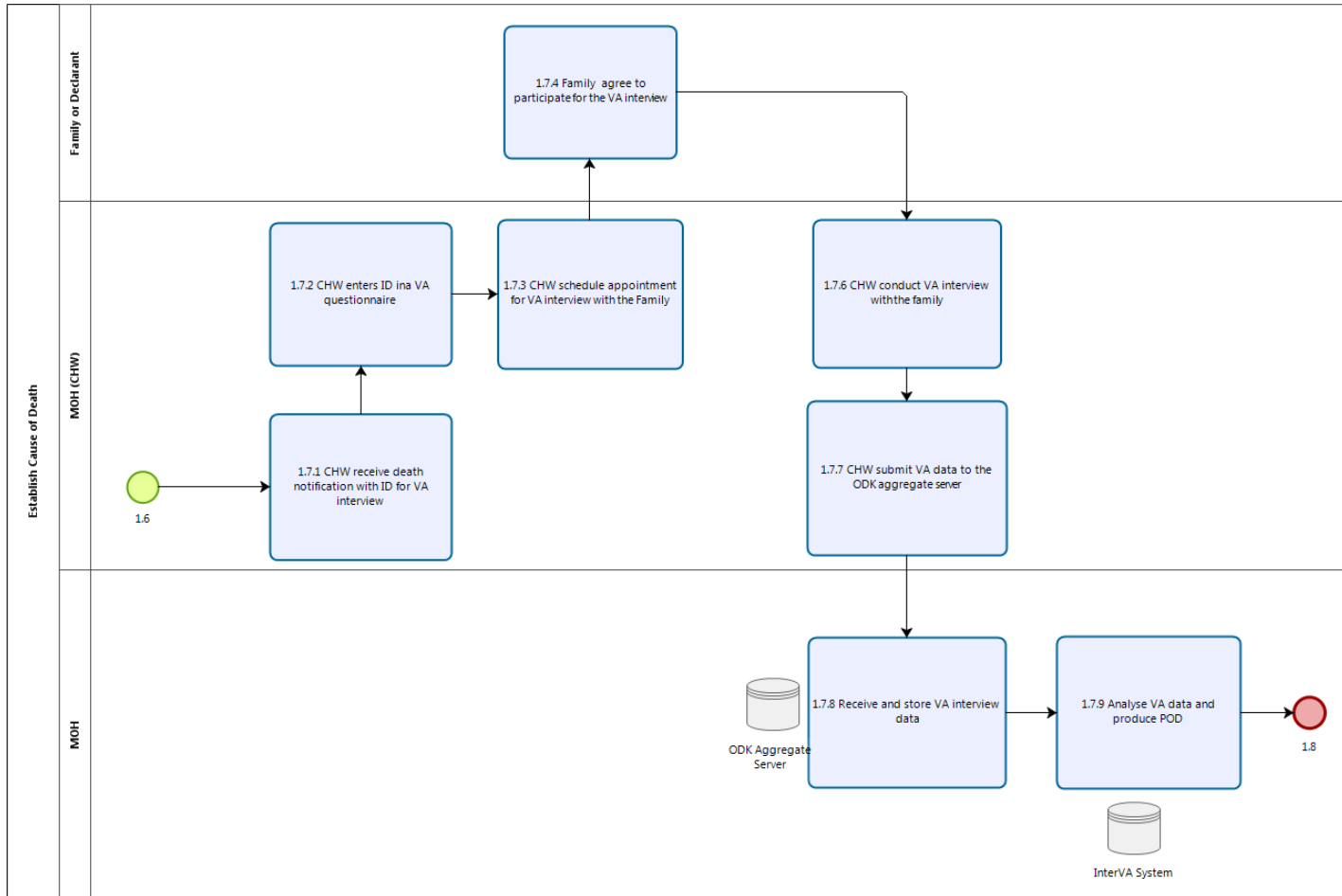


Figure 4: Establish Cause of Death (Level 2)

1.10 Validate and Register Death (Level 2)

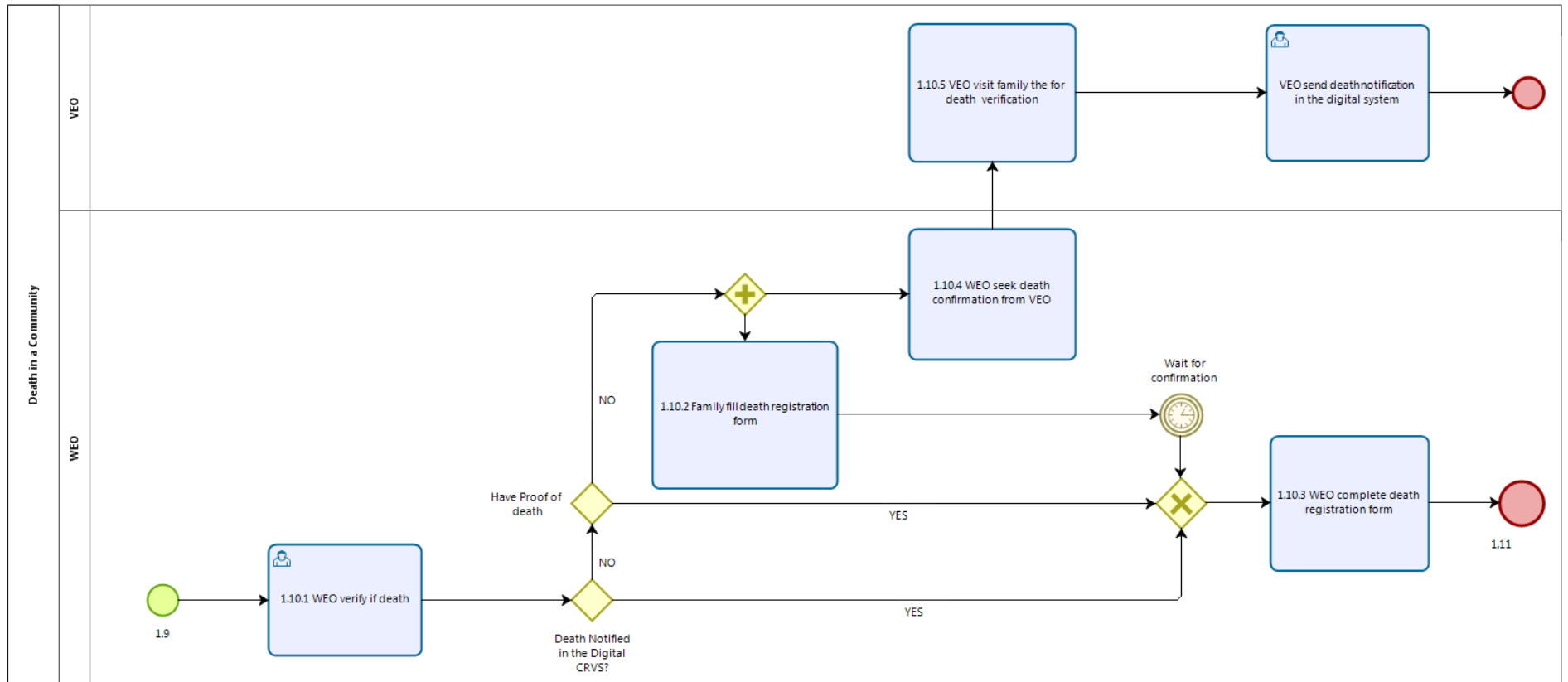


Figure 5: Validate and Register Death (Level 2)

Step 4: **Test the proposed redesign ideas**

Step 5: **Examine the implications of potential redesign**