



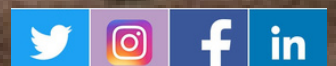
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RUSSIA-UKRAINE WAR: LEOPARDS UNLEASHED

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Introduction

On commencement of invasion of Ukraine by Russia, the collective West unleashed a Tsunami of economic sanctions making Russia the most sanctioned country in history¹. This has been followed by an unending aid to Ukraine which currently standing at \$128 Bn² including \$46.6 Bn in military aid from the USA³ alone. However, as this war of attrition has progressed the Russians seem to have negotiated almost all the Western economic sanctions and 'Wunderwaffe' including Drones, Harpoons, HIMARS, M-777, Caesar, NASAMs etc and yet they continue to advance incrementally. These continued Russian gains has been a source of concern to the collective West and hence, the announcement of the supply of Main Battle Tanks (MBTs) in Jan 2023 by the collective West to Ukraine. As the first lot of these tanks and its associated equipment now enters Ukraine it is imperative to understand the factors associated with the employment of these Wunderwaffe in Ukraine in order to gauge the likely impact they would have on the battlefield.

Quantities

Proposed Delivery of Leopard-2 Tanks. On 25 Jan 2023 the German Prime Minister Olaf Scholz announced Berlin's decision to provide 14 Leopard-2 Main Battle Tanks (MBTs) to Ukraine⁴ a figure which has since been revised to 18. In addition, Berlin also allowed other NATO members to supply their Leopard-2 MBTs to Ukraine. This

German decision was preceded by the British and the American decision to provide 14 Challenger-2 MBTs⁵ and 31 M1 Abraham MBTs along with eight recovery vehicles respectively. At the time of announcements, it was thought that in total the quantity of Leopard-2 tanks being supplied could go upto 150 tanks. However, as it emerges there is always a difference between the planned and the actual deliveries. A Ukrainian Armoured Regiment typically has 31 tanks however, as things currently stand Ukraine would be lucky if it is able to receive one full Armoured Brigade worth of Leopard-2 tanks, sentiments echoed by none other than the German Defense Minister Boris Pistorius⁶ himself.

S No	Type of Leopard-2	Country	Planned Quantities	Confirmed Deliveries	Force Level	Available In / By
(a)	2A6	Germany	14	18	Regiment	Apr - May
(b)	2A4	Poland	14	14		March- Apr
(c)	-do-	Portugal	4	3	Regiment	Apr - May
(d)	2A4	Spain ⁷	50	10		-do-
(e)	-do-	Canada	8	8		Mar
(f)	2A6	Norway	8	8		Apr- May
(g)	2A6	Finland	18	3		-do-
(h)	2A6	Netherlands	18	14	Squadron	-do-
(j)	2A6	Denmark	20			
	Total		150	78		

Leopard-1. Subsequently Germany in conjunction with Denmark and Netherlands also announced their plan to deliver 178 Leopard-1 tanks out of which 88 Leopard-1 tanks are to be supplied by Germany⁸. Officially the Leopard-1 tanks went out of service in Jun 2007 and have been in storage for more than a decade. Consequently, all these tanks will have to be built from ground up and equipped with various other fitments such as Night Sights and Explosive Reactive Armour (ERA) panels if they are to stand any chance on the battlefield. This effectively translates into a delayed delivery schedule for the Leopard-1 tanks to May-June and even then, they are likely to be made available incrementally.

While it can be argued that the Leopard-1 is inferior to the Russian tanks however, it can also be argued that the Ukrainians are better off with Leopards-1 tanks than having no tanks at all. As far as optics the German armour is once again all set to roll into Russia reminiscent of World War 2.

Other Deliveries. The German announcement on MBTs was preceded by their announcement to supply 40 Marder Armoured / Infantry Fighting Vehicles (AFV/IFV). Similarly, on 05 Jan 2023 the French announced their decision to supply the AMX-10RC light tanks. In all the Ukrainians will receive more than 300 AFVs & upto 100 self-propelled howitzers which along with the MBTs will be configured into combined arms brigade.

S No	Type	Country	Quantity	Force Level	Type
(a)	PT-91 Twardy	Poland ⁹	60	Brigade	Tank (Variant of T-72)
(b)	AMX-10RC	France ¹⁰	30	Regiment	Light Tank
(c)	Marder	Germany ¹¹	40	Regiment Plus	Infantry Fighting Vehicle
(d)	Bradley	USA ¹²	109	Brigade Plus	-do-
(e)	Stryker	-do- ¹³	90	Brigade	-do-
(f)	Rosomak	Poland	100	Brigade	-do-
(g)	Caesar	Denmark ¹⁴	19	Regiment	Howitzer (155mm)
(h)	Caesar	France	12	Regiment Minus	-do-
(j)	AS – 90	UK	30	2 x Regiments	-do-
(k)	M109 Paladin	USA	18	Regiment	-do-

The Abram's Question. The American announcement of supply of 31 Abrams compelled the reluctant Germans to supply the readily available Leopard-2 tanks. This announcement of supply of Abrams however, suffers from the following issues:-

- (a) **Armour.** USA has stated that Abrams being supplied will not be provided with the depleted Uranium armour¹⁵ and will come instead with a much inferior Steel armour.
- (b) **Time Frame.** Since no tank with a Steel armour currently exists with USA hence, these tanks will not be drawn from the existing stocks but will be produced thereby precluding their availability for most of 2023¹⁶.

Where Did the Existing Ukrainian Tanks Go? At the start of the war the Ukrainians had nearly 1000 tanks. As the war progressed at least 450 modernised Soviet tanks mainly T-72 were transferred by the West while it is estimated that over 500 Russian tanks were captured by the Ukrainians¹⁷. Despite these numbers on 20 Dec 2022 the Commander-in-Chief of Ukraine General V Zaluzhny asked the West to provide him with 300 Tanks, 600-700 AFVs and 500 howitzers for victory¹⁸ and many more in case the lost territory was to be regained.

So where did the Ukrainian Tanks go? Well, the simple answer is that the Russians have taken apart a vast majority of these tanks which can also be substantiated by the fact that the Ukrainians went to war with around 800 active T-64 tanks and in 11 months lost around half of them¹⁹.

Likely Employment

Earliest and Latest Employment Window. The training for the Ukrainian troops commenced in February with the arrival of the Ukrainian crews in Germany and UK. Simultaneously, the tanks also started to arrive as early as 24 Feb with Polish President Andrzej Duda confirming the delivery of the first four Leopard-2 Tanks from Canada. By first week of April, Ukraine already has a squadron of Challenger-2 tanks and a regiment of Leopard -2 tanks in the area of employment. However, this delay in arrival of MBTs from the announcement made in January has already translated into a hot February and March for the Ukrainians. Given that the delivery of tanks will continue to be incremental, Ukrainians can either employ them in a similar piecemeal manner in mid-April and risk their piecemeal destruction or they can wait till Summer and employ these tanks as a consolidated mass. The down side of the second option however, is that the Ukrainians may suffer further reverses and reduction to their existing inventories of AFVs.

Cede Territory for Time. In order to make their delayed summer mobilization of 2022 a success the Russians took a massive military decision and decided to cede territory for time. This decision including the withdrawal from Kherson enabled the Russians to save their existing army, infuse men and equipment and stabilise the front. Similarly, the Ukrainians also have the option to cede territory for time and withdraw to a more defensible line and gather strength. However, given the continued slow westward grind of the Russians and the war weariness of the West this is likely to be a more of a political decision rather than a military one.

Likely Ukrainian Force Composition. It was perceived that the infusion of nearly 300 tanks of all types and another 300 IFVs would enable the Ukrainians to create up to 10-12 Armoured Brigades. However, given the current trends it is likely that by May the Ukrainians will at best be able to create 6-8 Brigades with all subsequent arrivals likely to be employed to reinforce these formations and make up their losses. Within these 6-8 armoured brigades, two brigades are likely to be composed of one regiment each of Leopard-1 and Leopard-2 and one / two battalions of IFVs. Two Brigades would be based on the PT-91 Twardy/ T-72 along with some IFVs and given the large compliment of IFVs 2-3 brigades are likely to be made up totally by the IFVs.

Role on the Battlefield. Common wisdom suggests that for maximum benefits at least three brigades are employed together. However, given the wide frontage over which the Russians are engaging the Ukrainians it is likely that initially there will be an armour heavy brigade each in Kharkiv, Bakhmut and Zaporizhia sectors with one brigade being held in reserve at Kyiv to deal with any situation arising from the North or for assisting a successful counter offensive. It is visualised that most of the Leopard-1 and other AFVs will be assigned a more traditional role such as stiffen up the defenses (incl employment as Pill Boxes), fire support, containment of breaches and Counter Attack. Another role that can be assigned to Leopard-1 and AMX-10RC would be to relieve the more capable T-72/80s from the dormant sectors and employ them with the Leopard-2

to take on the Russian T-80s and T-90s in conjunction with the Bradley's and Marder's providing fire support. The central idea at the tactical level would be to let the tanks do the heavy breakthrough and let the IFVs exploit the rupture in Russian defenses and given that these IFVs come with TOW missiles and crew armed with Javelins or NLAWs they would be able to hold their own against the Russian armour. It is likely that the focus of the Ukrainians effort would be towards pursuing an offensive South of Orikhiv or Ugledar and to sever the Russian land bridge to Crimea. However, given the layout of the Russian defensive lines in this sector this Battle of Aredenne type operation by the Ukrainians may prove to be costly both in terms of equipment and will allow the Russians to operate more freely in the Eastern and Northern Ukraine.

Battlefield Challenges

The Changed Scenario. This will perhaps be the first time when the Western armour will be operating in a scenario which is completely alien to it a fact admitted to by none other than the NATO Supreme Allied Commander General Christopher Cavoli who says that "the scale of this war is out of proportion with all of our recent thinking"²⁰.

- (a) **Quality.** As per NATO the Abram /Leopard 2/ Challenger are superior to their Russian counterparts. However, it needs to be considered that neither are these tanks available in the requisite quantities nor is the gap significant. Apart from the technical training the quality of tactical training being imparted to the Ukrainians also needs to be considered. This needs to be viewed in the light of the fact that since the end of Vietnam war NATO is yet to participate in a high intensity conflict of the type seen in Ukraine. In fact, in the last three decades most NATO operations have been in terrain (Iraq, Syria and Afghanistan) totally different from Ukraine which has forests and rivers along with the requirement to undertake complex missions such as opposed river crossings.
- (b) **Quantity.** When faced with superior German tanks Stalin famously remarked "Quantity has a quality all its own" and as they say the rest is history. As evident the quantity of tanks being supplied by the collective West comes nowhere near the T-80/90s (1000 plus) which the Russians already have on the battlefield. In addition, the Russians can produce an additional 800 new tanks every year.
- (c) **Air Cover.** It is the Russians who dominate the air both by day and night and given the number of platforms at their disposal and the gradual degradation of Ukrainian Air Defenses the Russians are in pole position when it comes to inflicting serious damage to this force even before it comes to bear on the battlefield. The latest infusion of Mig-29s from Poland and Slovakia will merely be an inconvenience which the VKS will have to deal with.

- (d) **Firepower**. Russians have been employing an overwhelming amount of artillery and this equation is not expected to change in the foreseeable future. This has been admitted by NATO General Secretary Jens Stoltenberg who on 13 Feb 2023 warned that Ukraine is using up ammunition far faster than its allies can provide²¹. Moreover, since the Russians also have precision strike capability along with complete battlefield transparency it is unlikely that the Russians will ever be blindsided.
- (e) **ATGMs**. Just as the Javelins & the NLAWs the Russians also have adequate number of Anti-Tank Guided Missiles (ATGMs) such as the Kornet-E and the Metis along with skilled ATGM crews to deal with any arising eventuality.
- (f) **Training and Mindset**. For the first time the Western tanks will meet an opponent who has been trained to meet the Western tanks on the battlefield. He is well trained, adequately equipped and believes that the West is out to destroy his motherland.

Training Challenges

Manpower & Training. Any equipment is as good as its crew. Since most of the weapons being supplied to Ukraine are Western in origin hence, NATO has played a predominant role in training the Ukrainian troops being conducted in various NATO countries. While this process of training is fantastic for optics however, as far as the training value is concerned the following issues need to be considered.

- (a) **Quality of Recruits**. Since Ukraine is already fighting been fighting for well over a year hence the personnel available for training will be a mix of seasoned veterans and recruits falling in the age bracket of 18 - 50 years. Since none of the crews would have ever worked on the Western tanks therefore, the task of training these personnel both technically and tactically will be challenging.
- (b) **Loss of Trained Manpower**. On 01 Dec 2022 the EU Commission Chief brought out that more than 1,00,000 Ukrainian officers had been killed²² but failed to mention the number of wounded. This translates into significant attrition amongst Ukraines's best troops, the troops which it had at the start of the war. Since then, the Russians have launched the 'meat grinder' in Soledar, Marinka and Bakhmut which indicates higher Ukrainian casualties both in terms of equipment and loss of trained manpower. While the West can supply the equipment however, the losses in trained manpower will be loss difficult to bridge. Even the quantum of manpower required will be significantly higher as the Western tanks have a crew of four as against a crew of three of the Ukrainian tanks.
- (c) **Quality of Training**. While training on systems such as Small Arms, Javelin and Stingers can be imparted quickly however, when it comes to complex

systems such as Patriot, HIMARs, or the Leopard-2 tank the level of competence required is extremely high. It needs to be considered that the Ukrainian crews would be facing the regulars of the Red Army who currently enjoy complete dominance in terms of Surveillance, firepower, number of tanks and air superiority. Moreover, the performance of western trained armies/soldiers in Afghanistan and Yemen has not been encouraging. Even now the Western trained Ukrainian army is ceding territory to private contractors such as the PMC Wagner who employ convicts. In case the training is lacking then one thing is assured that the captured Leopard-2 / Challenger-2 would look mighty impressive at the Red Square.

(d) **Duration of Training.** The standard period of training for the Leopard-2 is 22-weeks²³ The Americans and the British believe that experienced crews can be trained in 8-12 weeks while the Poles believe that 5 weeks is adequate²⁴. This 35-day period as articulated by the Poles relies solely on the assumption that Ukraine will be sending its most experienced crews and does not consider the attrition which the Ukrainians would have suffered in a yearlong war. The duration of training will emerge as a criticality more in the case of Officer training who must lead these diverse and complex pieces of Western AFVs with each having its own interoperability issues into battle as one homogeneous unit.

Logistical Challenges

The movement, supply and maintenance of AFVs is the key to any future outcome and the current logistical issues do place Ukrainians at a significant disadvantage on account of the following:-

(a) **Distance.** The first challenge will be the transportation of all the equipment over vast distances to Poland where they are likely to be concentrated. This transportation will also include the movement of repair and recovery echelons, ammunition and above all heavy transport for movement of these tanks by road to the notified areas. Post assembly they will then be transported over the Polish-Ukraine Border on rail or by road a journey close to 1000 Kms one way. Any side stepping of equipment from one sector to another will also accrue additional effort and what is even more challenging is that all this movement will be carried out under the observation of the Russians.

(b) **Weight.** The Leopard 2 weighs in at a hefty 66 tons and it is likely that the move of these tanks to the designated employment location will have to be carefully coordinated. Post arrival these tanks will have to be grouped with suitable assault bridges and rush crossing stores so that they can be gainfully employed on the battlefield. Since these tanks will be in location by April they will have to deal with the famous Ukrainian weather that makes the ground boggy making the movement of these tanks and their logistic support vehicles difficult.

(c) **Maintenance & Repairs**. One thing that immediately stands out is that the repair and maintenance of these tanks will be particularly challenging as none of these tanks are similar. In fact, the Abram has a Gas Turbine Engine and uses Aviation fuel unlike the Diesel engines of the Leopards. Therefore, the very first challenge would be to find manpower adept at repairing these tanks in the field. Since the trained manpower from other countries are unlikely to set foot in the war zone therefore, Ukrainians will have to train personnel and given the limited time available it is unlikely that the Ukrainians will be in any position to repair more than one type of tank. Secondly, in case these tanks cannot be repaired in field then they will have to be recovered and transported all the way back to Poland where the workshops would be located. A prime example is the repair of M-777 necessitating the establishment of repair facility in Poland. Moreover, since many of the tanks and AFVs on offer are antiquated hence, finding parts for these tanks and fire control systems (optics) would prove to be challenging thereby resulting in their reduced availability on the battlefield. It is not that NATO is not seized of these issues. Since they are aware of these issues NATO went the extra mile to find Soviet era weapons to arm the Ukrainians including use of Moroccan T-72.

(d) **Ammunition**. The Challenger-2 does not use the standardised NATO tank ammunition which is the 120mm NATO mm smooth bore. Similarly, the AMX-10RC also utilises a different ammunition as it uses a 105mm Gun. When it comes to the AFVs the situation is even more complex. Not only do the Marder and the Bradley and Stryker's use different ammunition for their 20mm, 25mm and 30mm guns respectively the ammunition of these platforms is also different from the BMP-2 ammunition which the Ukrainians have in abundance.

Verdict

- (a) **A Hollow Promise**. On 17 Feb 2023 the Defense Secretary of UK said that "many countries find that their armies don't have the operational tanks to supply"²⁵. He further went onto say that this is applicable not just to tanks but also to ammunition and other equipment. So essentially the West does not have either the tanks or the ammunition. Similarly, the USA has promised 31 Abram tanks. This promise is also hollow as these tanks will arrive only by the year end by which time the war may be over.
- (b) **Tanks but no Thanks**. The Leopard tanks will be entering into a battlefield it is not accustomed to strategically, tactically or logistically. Had the West been supplying more than 150 tanks, then working on mitigation of these challenges would have made sense. However, creating a whole new logistical set up including stocking of spares and workshops and training of personnel for 70 odd Leopard-2 / Challenger-2 tanks makes no sense at all.

Conclusion

The fate of the Leopard-2 tanks and other NATO equipment is sealed like the famous German Tiger tanks in 1944. With the war ongoing for one year there are no indications on ground of either Ukraine winning or Putin losing. To make matters worse the economic sanctions of the West have backfired and the collective West is openly admitting that they are now running out of weapons and ammunition. Seized of this the Ukrainians are doing their best to enlarge the scope of the conflict and get NATO involved while the Russians realizing the same have shown restraint. All of this makes it imperative for the West to find a way to engage with Russia to carry out face saving or choose to escalate further. The collective West will do well to remember President Barak Obama's prophetic words "Ukraine will remain vulnerable to military domination by Russia no matter what the US does"²⁶. Should the West choose not to engage with Russia then Ukraine will lose and if that happens then as the NATO General Secretary Jens Stoltenberg says "NATO would have lost"²⁷.

DISCLAIMER

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